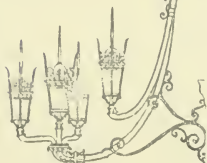


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Downtown Waterfront Faneuil Hall Project

Urban Renewal Area
Massachusetts R-77

Land Use & Marketability Study

BOSTON, MASSACHUSETTS

prepared for DOWNTOWN WATERFRONT CORPORATION

LARRY SMITH AND CO.

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LAND USE AND MARKETABILITY STUDY
DOWNTOWN WATERFRONT - FANEUIL HALL
URBAN RENEWAL PROJECT
BOSTON, MASSACHUSETTS

Prepared for
Downtown Waterfront Corporation

January 31, 1964

Larry Smith & Company
1208 Dupont Circle Building
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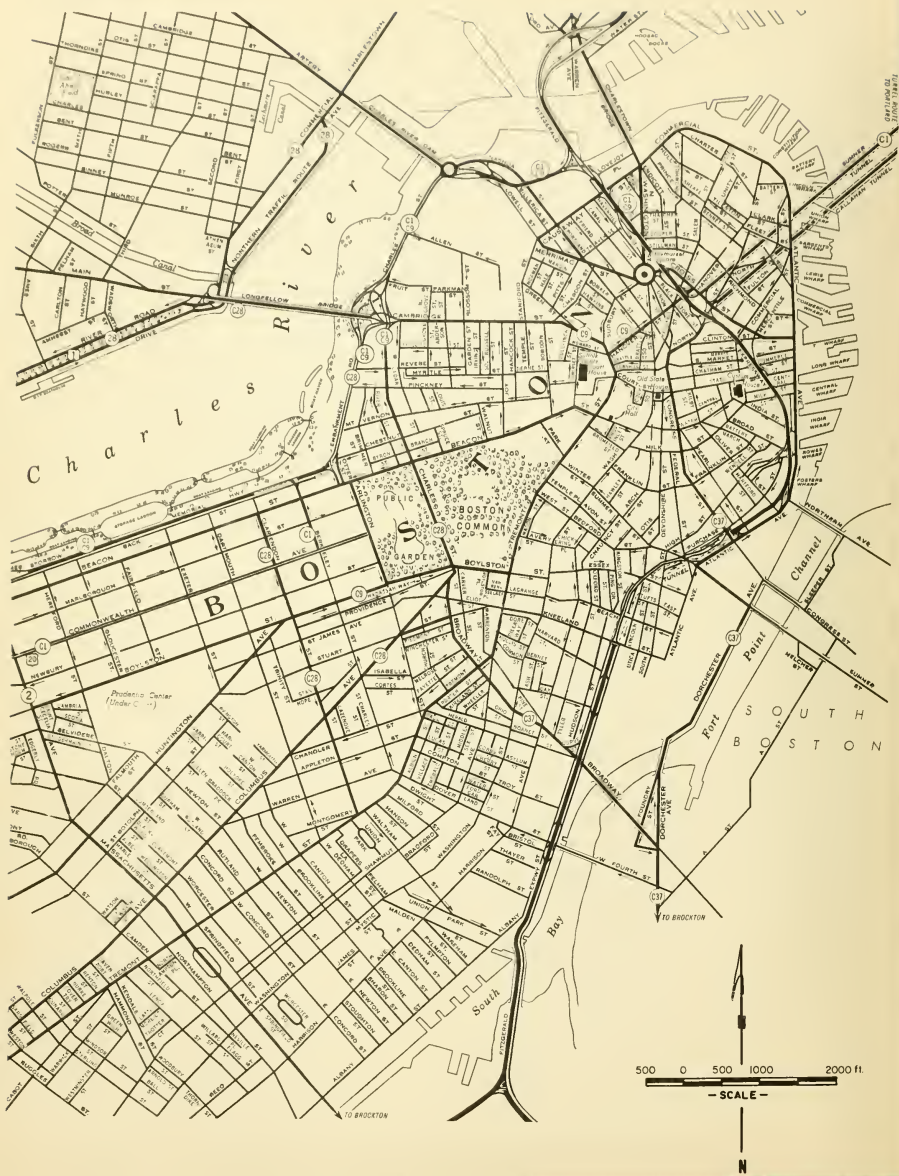
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PART I

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Central Boston



SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The material immediately following represents a summary of the market analysis of the Downtown Waterfront-Faneuil Hall Renewal Project, along with marketability conclusions and recommendations on the parcels of land proposed for disposition.* Detailed statistical data supporting the market conclusions summarized here are contained in Part II, The Market Study.

Summary of the Market Study

Office And General Business Space

1. The inventory of office and general business space in downtown Boston has been variously estimated at 17 million to 24 million square feet, of which 5.5 million to 6.0 million are contained in medium or better quality space, an additional 4 to 5 million are occupied by single-purpose tenants, and the remainder represents lower quality space.
2. The 5.5 million to 6.0 million square feet of medium or better quality downtown space is about 95% occupied, while the lower quality space probably is about 88% occupied. First quality rents range upward to \$6.00 to \$7.00 per square foot for prime space in the newest buildings, while rents on renovated buildings in good locations are about \$3.75 to \$4.50 per square foot.
3. Nearly all new office building construction from the early 1930's to the end of 1962 consisted of single-purpose buildings. This included the Liberty Mutual and John Hancock Buildings built earlier as well as the 750,000 square feet of space in several buildings constructed between 1957 and 1962. Since 1962, construction or advanced planning of several major developments has been undertaken. This amounts to approximately 6,500,000 square feet, of which approximately 3,600,000 is expected to represent general tenant space.

* See Appendix A-1 and A-2 for a list of parcels and proposed re-uses.



4. Downtown office employment forecasts by the Boston City Planning Board contemplate an increase of 48,350 employees between 1957 and 1975.* At present, there are about 200 square feet of office and general business space for each downtown office-general business employee. If the growth in downtown is accompanied by an expansion of downtown space at the rate of 200 square feet per employee, a total of 9,670,000 square feet of additional space would be required between 1957 and 1975. As pointed out above, approximately 750,000 square feet were built between 1957 and 1962 and another 6,500,000 feet is currently under construction or firmly planned. Deducting these additions from the total amount needed by 1975, leaves an unsatisfied potential demand of 2,420,000 square feet.
5. In addition to the future need for office space generated by increasing employment, some amount of replacement space will be needed to compensate for depreciation due simply to the passage of time. Taking a minimal assumption of replacement of one-half percent of the inventory per year, and assuming the inventory to be only 17 million square feet, about 85,000 additional square feet per year would be needed. This represents 1,020,000 square feet for the 12-year period between 1963 and 1975. There may also be additional construction beyond that which can be forecast on the basis of market data, due to management decisions to upgrade and expand facilities now located in Boston or to centralize in Boston operations now located elsewhere.
6. The total unsatisfied potential based on employment growth and replacement demand indicates a need for approximately 3,500,000 square feet of additional office and general business space above that already known to be planned between now and 1975.
7. It is estimated that about 1,200,000 to 1,300,000 square feet of this demand will be available to facilities in the Downtown Waterfront-Faneuil Hall Renewal Project. This would include the 300,000 to 400,000 square foot building which the telephone company proposes to build for their own use in the project area, as well as other new and rehabilitated office and general business space.

* This projection is based on 1947 to 1957 experience and contemplates an average annual increase of 10,500. Since 1957, the actual growth has been about 12,000 jobs per year, more than enough to accomplish the forecast employment level. Recognizing that the forecast may ultimately prove conservative, it is believed suitable for present planning purposes.



Transient Housing

1. The newest hotel presently existing in downtown Boston was built in 1927. While there has been some remodeling, there have been no additions to the downtown hotel inventory since that time, so the major changes in the inventory are the results of 1,200 rooms demolished and 300 deleted from the inventory through conversion to residential use.

Development of an additional 1,400 hotel rooms is planned. One-thousand of these (the Hotel America) are to accommodate the demand expected with the 6,500-seat War Memorial Auditorium in Prudential Center, and 400 are to be located at Park Square and Boylston Street.*

2. Rooms have been added at an accelerating rate to the area's motel inventory. Between 1959 and the middle of 1962, the average rate of motel room additions was slightly more than 400 per year. In the year beginning with the middle of 1962, the rate accelerated to about 750 rooms annually. The estimated 1,100 rooms now under construction or in advanced planning stages, therefore, represent between two and three years' supply at past growth rates.
3. Occupancy levels in hotels and motels have been and continue to be very high in spite of the addition of more than 2,000 motel and motor hotel rooms since 1959.**
4. All indications are that metropolitan area demand for transient housing will continue to grow, reflecting the expanding regional and local economy, the growth of convention and business travel, and the increasing amount of tourist and special-event traffic.
5. Nationally and locally, the trend is toward downtown rather than outlying motor hotel locations. Related to the construction of buildings and highways focusing on central Boston, the need for first quality transient housing is expected to increase by about 3,500 to 4,250 rooms by 1975. This would double the present supply of first-class accommodations.

* The Government Center and West End motels are included in the 1,100 rooms listed as under construction in Point 2 below.

** About 1,435 rooms were added in the $3\frac{1}{2}$ -year period between 1959 and the middle of 1962, and 750 more were added in the year beginning with the middle of 1962, for a total of about 2,185 motel and motor hotel rooms in the $4\frac{1}{2}$ -year period.

6. Deducting the 2,900 units* now planned or under construction leaves an unsatisfied demand for 600 to 1,350 by 1975 over and above the present inventory, some of which is not well located and does not offer the convenience being provided in newer establishments.
7. The Waterfront location is a logical place from which to serve a portion of this demand. Aside from its advantages of view, it would provide facilities where none otherwise would exist. (The closest hotel or motel is the proposed Government Center facility, several blocks away.) The Waterfront motor hotel would serve visitors to its own office, general business, tourist, and residential area, in addition to being close to the financial district and readily accessible from the major airport, tunnel and expressway system. Its amenities and the prestige of the total project area may enable it to attract some of the more moderate-size conventions, as well as providing for overflow connected with larger conventions and meetings.

Residential

1. Housing has been added in the Boston metropolitan area at the rate of 15,000 dwelling units per year, of which approximately 10,000, or two-thirds, represents new construction. About 15% of this has been in the city itself, primarily in the form of multifamily units.
2. Until recently, there was very little close-in new construction. Buildings have been developed in recent years at the rate of about 500 units per year.
3. Much of the close-in new housing has been in rental ranges of \$135 per month for efficiency apartments and higher for larger units. Two major close-in developments are now planned: extension of Charles River Park where rentals are to range upward from \$135 per month; and Prudential Center where rentals are proposed at about \$78 per room or \$160 to \$175 and up for efficiencies.
4. With the expected increases in downtown employment, growing metropolitan area population, rising personal incomes, and

* This includes 1,400 hotel rooms, 1,100 motel or motor-hotel rooms, and a 500-room allowance for units likely to be built but the sizes of which are presently unknown. See Appendix E for a list of existing and proposed facilities and an estimate of the number of rooms in each.



decreasing average household size, the outlook is for further increases in the demand for centrally located housing. The annual market available in the city totals 2,250 units, of which 500 have characteristics suggesting close-in, high-rise development would be most readily absorbed by the market. The remaining 1,750 would be expected to be distributed among low-rise units in all size and price classes.

5. In the high-rise price and units size range, it is believed reasonable to plan for development of approximately 1,000 to 1,500 high-rise units, possibly to be developed in two or three stages of about 500 units each, timing to be dependent on experience in first-stage leasing and timing of competitive projects.
6. The size and price mix shown below is believed appropriate for the Waterfront development on the basis of market data, and avoids the very high end of the market toward which competing developments in Prudential Center and, to a lesser degree, Charles River Park are oriented.

<u>No. of Units</u>	<u>Size of Units</u>	<u>Approximate Midpoint of Rental Range</u>
75	Efficiencies	\$135
75	Junior One-bedroom	\$160
300	One-bedroom	\$200
50	Two-bedroom	\$250-plus

While the Waterfront high-rise apartments might potentially aim at a higher rent market such as the Prudential Center apartments a more moderate rent range is recommended. The market is larger, the Waterfront apartments will open later than those at Prudential Center, and the market for luxury housing is typically very thin, a consideration of some importance due to the timing and scope of other developments.

7. With regard to the proposals for low-rise housing in the project area, the study of demand indicates that these might be developed in a variety of price ranges, although absorption would be expected to be somewhat less rapid and competition would be encountered from other developments if the higher rent ranges were chosen.

Although there is little experience as to the market for development of low-rise close-in housing, we believe it reasonable to expect the Waterfront project to absorb about 50 to



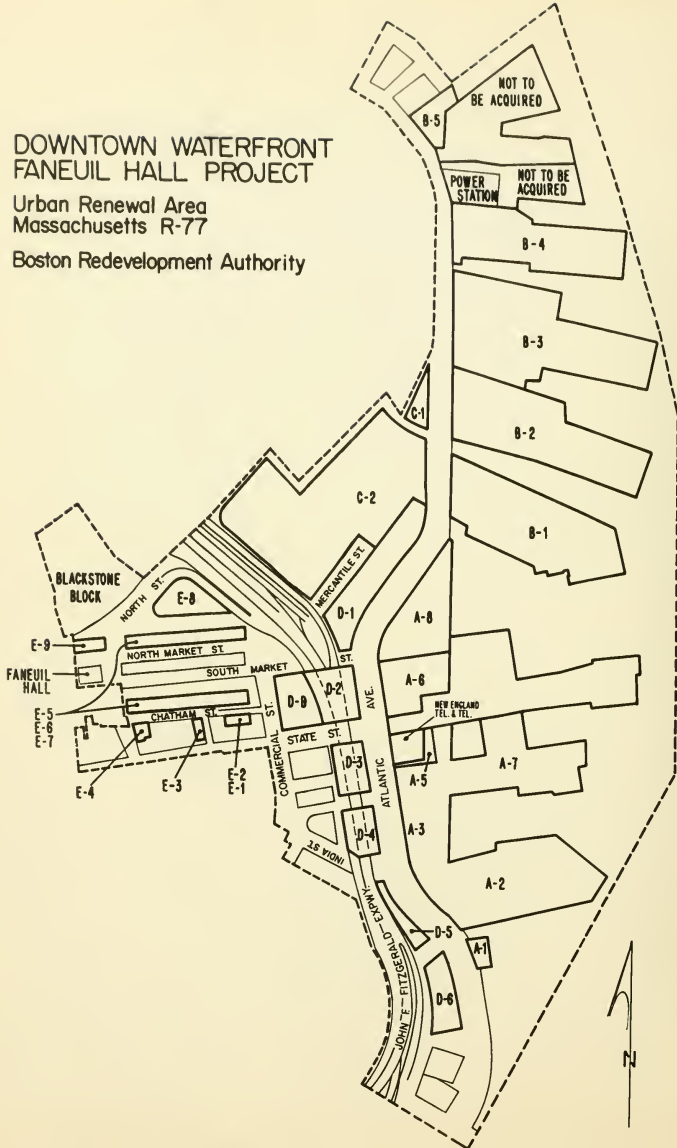
100 units per year in new and converted buildings in the middle to high rental ranges.

8. Because of the extent of demand in the low rental ranges, it is difficult to establish any upper limit on the amount of demand which might be available for suitable housing provided in such a close-in location.
9. One limiting factor which apparently would apply in all housing forms, except 221 (d) 3 and public housing, is that unit sizes in terms of number of bedrooms probably should be kept relatively small so that two and three-bedroom units would represent only a minor percentage of the total development.
10. The importance of factors other than demand in the development of housing by conversion of existing buildings rather than new construction suggests that the distribution of project housing between converted and new buildings is more properly a question of marketability than market. Accordingly, consideration of converted versus new housing is contained in the second part of this summary section.

DOWNTOWN WATERFRONT FANEUIL HALL PROJECT

Urban Renewal Area
Massachusetts R-77

Boston Redevelopment Authority



THE MARKETABILITY CONCLUSIONS AND RECOMMENDATIONS

Marketability conclusions which are summarized below relate the findings of the total market to the locational requirements of each land use proposed, and to considerations relevant to marketing the various parcels within the project area.

In discussions of the marketability of waterfront parcels, certain assumptions are necessary. The most important of these are:

1. The railroad which now is located in Atlantic Avenue will be moved to the new alignment of Atlantic Avenue.
2. Although detailed architectural and engineering studies have not yet be finalized for all parcels, it is assumed that the total project will be planned so that adjacent uses will not interfere with successful development of other nearby parcels.
3. Any problems which might exist with regard to the establishment of a pierhead line will not complicate disposition negotiations.
4. Although some engineering problems (such as piling) may exist, it is understood from the Boston Redevelopment Authority that these are capable of an economic solution.
5. Disposition of land in this project will be coordinated with disposition activities in other urban renewal projects in the city.
6. It is understood that an MTA easement exists under State Street and precludes building over the easement. This fact is taken into account in analyzing the current plan, but it is assumed that there are no other easements sufficiently important to prevent development of other parcels approximately as proposed in the plan.

The comments on marketability of necessity cover in detail only those uses which are capable of study through market analysis. However, this report contains some suggestions on the development of other parcels not susceptible to market analysis because of the character of reuse proposed, as well as comments on possible alternate uses, disposition considerations, and effect on adjacent land uses.

Lastly, the specific areas indicated for parcels, the parcelization, and land use distribution are not final at the date of this report. While the conclusions as to market and marketability may continue to apply, these conclusions should be reviewed in the light of any major changes in area or land uses allowed.

Office and General Business Space

1. The plan contemplates development of at least 17 office and general business space parcels* on both sides of State Street, including:

A. Major Buildings

- (1) A 300,000 to 400,000 square foot building on the northeast corner of State Street and Atlantic Avenue (Parcel A-6).
- (2) A 100,000 Square foot building and a 1,500-car parking garage on the east side of Atlantic Avenue south of its present intersection with State Street (Parcel A-3).
- (3) A 250,000 square foot building at the northwest corner of the intersection of State Street and the John F. Fitzgerald Expressway (Parcel D-9).

B. Other Buildings

- (1) 150,000 square feet of general business space distributed on four parcels fronting on Atlantic Avenue with parking and perhaps some building area extending westward beneath the Expressway (Parcels D-2, D-3, D-4, and D-5).
- (2) 125,000 square feet distributed among several buildings or perhaps developed as a single building near the project area's southern boundary between Atlantic Avenue and the Expressway (Parcel D-6).
- (3) A total of slightly more than 100,000 square feet of general business space to be rehabilitated in the existing North and South Market Buildings (Parcels E-5, E-6, and E-7).

* In addition, some special purpose parcels such as the yacht club (Parcel A-1) and the sports center (Parcel D-1) are designated general business for purposes of planning. Such special purpose parcels are discussed later in this section.

- (4) Three small parcels to contain an indeterminant amount of general business space located near the Market Buildings with land areas of 1,125, 2,250 and 4,500 square feet each (Parcels E-1, E-2, and E-4).
 - (5) A total of roughly 40,000 square feet to be located in the residential wharf buildings (Parcels B-1, B-2, and B-3).
 - (6) Rehabilitation of existing space in the Blackstone Block.
2. It is understood that all of the major buildings have received expressions of interest from potential users and negotiations are now underway for their development for specialized purposes. Specifically, this includes the 300,000 to 400,000 square foot building on Parcel A-6, the 100,000 square foot building on Parcel A-3, and possibly for all or part of the 250,000 square feet planned for Parcel D-9.*

Regardless of the outcome of present negotiations, we believe each of the parcels to be marketable, and their marketability will increase as development of the total Waterfront and Government Center projects proceeds.

3. Smaller buildings along Atlantic Avenue seem likely to be readily absorbed because of the fact that they offer an opportunity for smaller investors and modest size businesses to create smaller, independently-owned structures for their own use or for lease. The opportunity to acquire sites of moderate size in central locations is unique and is expected to represent a real advantage in marketing sites in the Waterfront Project. In addition, the limited size of these sites makes them essentially non-competitive with land being made available in the Government Center project. There may, however, be at least a limited amount of substitutability between space in the two projects when leasing stages are reached. Nevertheless, as the market study indicates, there is believed to be adequate market for space to be developed in the Government Center as well as in this project.

* This would also include the 5,700 square foot parcel (Parcel A-5) for expansion of the existing telephone company building.

4. Some of the buildings along Atlantic Avenue are to extend back under the Fitzgerald Expressway. In the buildings along State Street, this might be highly desirable space for certain types of retailers needing pedestrian traffic such as will be generated along State Street when the major Waterfront section of the project has reached implementation stages. Provision of retailing in this location would be beneficial not only to the tenants themselves but also to the residents of nearby housing, to persons doing business in the office buildings nearby, and to tourists and other visitors to the proposed aquarium.
5. In addition to retailing requiring a high amount of pedestrian traffic, a certain limited amount of demand, possibly under the expressway, is expected from tenants who normally seek locations on the fringe of activity downtown or in the suburbs.* At present, the only alternative space available to such tenants at rates less than prime central area space is in the suburbs or in older downtown buildings. This will represent the only major new downtown area available to users with central locational requirements for moderate sized buildings.
6. The greatest possible amount of flexibility is recommended to enable individual investors/developers to pursue their own objectives and plans in both new and rehabilitated office and commercial structures. To be more specific, the plan for several of the smaller buildings discussed above provides that there should be varying amounts of general business or office space. In fact, several parcels (D-2, D-3, D-4, D-5, D-6, E-5 E-6, and E-7) might acceptably be considered for office, general business, or institutional use, as well as for a combination of these uses. Further, although the plan presently contemplates development of office or general business space in these structures, any one of these might not only be developed entirely in one of the uses but also with a combination of uses in varying proportions. Similarly, though the present plan permits development of commercial uses at grade in certain office and residential buildings, we recommend that whole buildings be subject only to general controls relating to prohibition of noise, nuisance, etc., rather than to specifying certain limited tenant types as acceptable. This in no way would interfere with achievement of the plan for developing a revitalized Faneuil Hall-Waterfront district, and the reuse controls should be written to allow developers the greatest possible flexibility in this regard.

* Tenants often found in this type of space include distributors of various kinds (such as office supply houses), contractors, mechanical and other repair services, investment and mortgage brokers, and real estate and insurance agents.



5. A limited amount of commercial space is proposed in the residential buildings to be developed on the wharves of Atlantic Avenue. Some commercial-office building activity already has been attracted to the converted residences on Commercial Wharf and the proposed commercial facilities on the other wharves would represent a continuation of this trend. Since the other wharves, especially Sargents and Union, are not as centrally located as Commercial Wharf, the plan allows conversion of the entire wharf building to residential or specialized uses rather than requiring a mixture of residential and commercial development there.
6. A further suggestion arising out of the inherent limitations of any market analysis is that the utmost flexibility in timing of development should be provided. While the market analysis shows sufficient market potential to warrant development of this project and of the others about which knowledge is now available, actual leasing experience should be regarded as a test of the market analysis and is an appropriate basis for revising development plans. To insure maximum success of this and other projects in their execution states, developers' investments should be protected by postponing further disposition of similar properties should market difficulties be encountered in the earlier stages of development.

This consideration is particularly relevant with regard to the buildings to be converted, since there is presently little experience with the market acceptance of such conversions except on a limited scale.

7. The Market Buildings have characteristics which would potentially make several alternative types of development possible. Further, the location of the Market Buildings and the Blackstone block between Government Center and the heart of the proposed Waterfront development make it likely that the demand for space in the Market and Blackstone Buildings will be accelerating as development proceeds on either side. For these two reasons, discussion of the Market-Blackstone area is deferred to a later section of this report.
8. The other small parcels in the Market-Blackstone area likewise will benefit from the development in Government Center and the Waterfront area. We foresee no particular problem in marketing these parcels in the short-run, but believe that the optimum timing for disposition would be after both the Waterfront and the Government Center projects have had an opportunity to become

established in the market. The basis of this recommendation is that it will allow the private market operations to develop the environment and to establish the desirability for what will become a central area of significant demand, thereby improving the reuse potential for the parcels involved.

9. To summarize, we believe all of the parcels now designated for office and general business use to be marketable. It is suggested that disposition of the office parcels be coordinated with the progress of Government Center's disposition program except as single-purpose users may come forward and request specific sites within the Waterfront project area. Disposition of the general business parcels would not be in competition with Government Center for developers, since all Government Center parcels are of sufficient size to require substantial investments, development organizations, and skill. The Waterfront project offers a unique opportunity to provide diversity with regard to sites, building size, style, and ownership. The current plan provides for accommodation of a variety of office space and general business needs in keeping with development of the project to its full potential.

Transient Housing

1. A waterfront location set back to the east of Atlantic Avenue but with open area connections to Atlantic Avenue is proposed for the planned motor hotel. We believe this site will be attractive to motor hotel developers. More important, we believe it a strong location with regard to serving the proposed development of the Waterfront project area itself, the existing financial district, overflow from convention and downtown hotel business, and tourists coming to Boston in general and specifically to the Waterfront area. The proposed location is close to MTA lines and to the expressway providing service from the airport and other points.

Residential

- A. A total of 2,160 to 2,260 housing units is proposed for development within the project area in several locations, price ranges, and housing styles. These include:

- A. 1,200 units in a high-rise waterfront development (Parcel A-1).
 - B. 310 new and 110 converted low-rise housing units on the Waterfront (Parcels B-1, B-2, and B-3).
 - C. 140 converted units in the Market Building (Parcels E-5, E-6, and E-7).* (As noted in the discussion of office space marketability, all forms of development proposed for the Market Buildings are discussed together toward the end of this section.)
 - D. 200 to 300 new and 200 converted low-rise housing units between Atlantic Avenue and the John F. Fitzgerald Expressway north of the State Street intersection (Parcel C-2).
2. The parcel proposed for high-rise development is well located for this purpose, being within walking distance of downtown Boston and near an MTA line. While there may be some construction problems due to the location on the piers, we understand from the Boston Redevelopment Authority that these problems are capable of solution from an engineering standpoint, and subject to this qualification, we believe the parcel readily marketable for the purpose of high-rise residential development.
3. The new and converted housing proposed for development on the Waterfront is also believed to be readily marketable. The conversion proposals represent a continuation of an established trend based on the experience and the reported waiting lists for apartments on Long Wharf and Commercial Wharf. The proposal represents an extension of this trend to adjacent wharf parcels, which probably would develop along similar lines with or without formal renewal action.

We recommend development of the wharf housing in a south to north direction, building on existing strength. Although it might be possible to develop the wharf parcels out of phase, since each might be considered to represent a distinct environment, we believe the advantages for such step-by-step development sufficient to recommend the procedure.

* This is a potential figure, not necessarily a proposal under the plan.



4. The 170 new and 210 converted housing units proposed for development under the 221 (d) 3 program are to be located across Atlantic Avenue from the Waterfront parcels, but are to be separated from Atlantic Avenue by a sports center.
 - (A) If problems should be encountered in disposition and subsequent development of the proposed sports center, it will be necessary to find an alternate use for the sports center parcel which will be consistent with the residential uses proposed adjacent to it.
 - (B) The 221 (d) 3 housing is to abut the Fitzgerald Expressway and, while this is a design and planning rather than a market problem, it will be important to the successful marketing of the residential parcels that the environment not be adversely affected by proximity to the expressway.
 - (C) At this time it is not known whether or not conversion of existing buildings will be possible within a cost framework making it possible to develop the housing to rent at prices consistent with the 221 (d) 3 program. Studies now underway by the Boston Redevelopment Authority are expected to resolve this question.
5. In order to meet a diversity of market demands, it is suggested that reuse controls allow for multiple rent, unit size and housing forms. Specifically, it is recommended that low-rise reuse controls specify densities but not housing form. This could be accomplished by controlling floor area ratios, height, number of housing units allowed, or similar means.
6. In summary, all the residential parcels are believed to be marketable subject to the qualifications noted above. However, as with the development of the other land uses proposed, it is recommended that maximum flexibility with regard to timing of development be provided and it is urged that developers' investments in initial stages of the project be protected as further project implementation progresses.

The Market Buildings

1. The two five-story Market Buildings (North Market and South Market) are proposed for redevelopment for general business and residential purposes. It is understood that these two buildings together are physically capable of accommodating

approximately 100,000 square feet of general business space and about 140 housing units.

2. Since each of the two buildings in reality is composed of a number of separate buildings, development as a single integrated entity poses unusual problems of circulation and management. However, this condition could also be an advantage in marketing these parcels since it makes the buildings capable of subdivision into a number of separate operations under either single or multiple ownership.
3. A requirement that residential and general business facilities be developed in any fixed combination in our opinion would unduly complicate the marketing, leasing and management of these buildings and would be unnecessary to accomplish the objectives of the plan. It is, therefore, suggested that reuse controls be permissive with regard to the type and amounts of various uses allowed in these particular buildings. It is our opinion that there are a variety of users whose needs could reasonably be filled by these buildings. Because of their variety, these users are difficult to categorize, but might include not only residential and general business (including retail and other commercial) but also some office users and a number of institutions of various types such as charities, schools, church groups, and others.
4. While the Market Buildings benefit from a uniquely desirable location between the center of redevelopment in the Waterfront project and the Government Center project, the problem is one of creation of an environment that will tend to upgrade the area rather than simply to attract tenants by the lower rents which may be available as a result of any saving in construction cost through conversion rather than new construction. While the market analysis does not differentiate among the various subsegments of demand, it is believed that trade and professional groups with a common interest in such a central location in proximity to related activities and with individually small space needs be canvassed to determine their interest in establishing a centralized and specialized concentration of similar offices in one or both of the Market Buildings.
5. The Market Buildings are believed readily marketable but it is recommended that their disposition be postponed so that full advantage can be obtained from the Market Buildings¹

highly desirable location between the developing Waterfront and Government Center areas.

The Blackstone Block

1. The Blackstone block is proposed for rehabilitation without acquisition. This treatment is believed to be feasible since redevelopment in the Waterfront and Government Center areas on either side will make the Blackstone area highly desirable for a variety of uses. Therefore, the operation of the private market should prompt upgrading of the space in order to take advantage of the increased earning power of facilities located there.

Other Uses

There are several parcels for which uses have been proposed which are not capable of market analysis. Specifically, these include the sports center (Parcel D-1), the institutional use (perhaps a visitors' center) which may be developed next to Faneuil Hall (Parcel E-9), the yacht club (Parcel A-1), the parking garage (Parcel E-8), and a few parcels to which no use has been assigned and which are understood to be scheduled for preservation of open areas according to the marketability of other portions of project area lands.

These parcels could have alternate uses in the event difficulty in disposition should be encountered. However, delay in their disposition would not adversely affect disposition of the other parcels and in most cases these sites could be diverted for use as extensions of development proposed for adjacent land.

Parcel D-1 could be used for commercial, institutional, or possibly other special uses, or could accommodate an extension of 221 (d) 3 housing in higher densities. Similarly, Parcel A-1 now planned for a yacht club could be used to accommodate part of the high-rise residential complex planned adjacent to it. The parcels now proposed for development for commercial use by the lobster and other related industries could be continuations of wharf residential development. The parcel next to Faneuil Hall could be used for another special purpose building similar to the present proposal, would be suitable for general office/commercial purposes or to provide additional open area.



Summary

There are several general comments on the marketability of the Water-front project parcels which apply to each of the uses proposed:

1. All the parcels capable of testing through market analysis are believed marketable within the framework of the plan now proposed.
2. Staging of disposition and development is of the utmost importance to insure orderly development both within this particular project and with regard to activities in other projects particularly in Government Center and the West End. While a program of staged development is suggested in this report, it is most strongly recommended that staging be reviewed periodically during project implementation in order to take advantage of the experience which will be available as a result of completion of the first stages.
3. The utmost flexibility with regard to land uses and form of development is important to insure development in conformance with a variety of market needs, developers' preferences and orderly project implementation. Specifically, great flexibility should be provided with regard to substitution among the various space categories so that the proposed buildings could be tenanted by office, general business, residential, and perhaps institutional uses.
4. Of paramount importance to the successful development of the entire project is creation of an environment in keeping with the objectives of providing for revitalization of the Water-front area and to insure its acceptability to prospective residents and to office, general office, and institutional space users.



INTRODUCTION

This analysis has been prepared pursuant to a contract between the Downtown Waterfront Corporation and Larry Smith & Company. The purpose of this report is to analyze the economic potential of the Downtown Waterfront-Faneuil Hall Renewal Project, and to translate this economic potential into physical requirements necessary for the Downtown Waterfront Corporation and the Boston Redevelopment Authority to complete the Final Project Report.

These physical requirements include future floor space, parking and locational requirement for various kinds of land uses to be developed in the project area. The major land uses are office, transient housing, residential, and retail and other commercial.

In the preparation of this report, reference was made to all available relevant material, including that furnished by the Corporation staff, that collected by Larry Smith & Company in connection with other work, and original and secondary information compiled by Larry Smith & Company in connection with this assignment. No attempt has been made in this report to reproduce all the detailed data which was reviewed in its preparation, but the bases and sources of specific pieces of information used in this report are noted in various places in the text.

In any report of this nature, certain operating assumptions and qualifications must be made. The most important of these which underlie the entire report are listed below:

1. There will be no general economic depression severe enough to affect the findings of this analysis during the time required for realization of the project plans.
2. Historic data obtained from published and other sources including government agencies, and used in this report, are sufficiently accurate to provide a basis for preparing meaningful forecasts.
3. The Downtown Waterfront-Faneuil Hall Renewal Project will be undertaken and completed within a reasonable length of time so that no major changes in the conditions assumed in this report will take place prior to project implementation.

PART II

THE MARKET STUDY



SECTION I

THE AREA OF STUDY

Plans for the project area call for new construction or rehabilitation approximately as follows:

Office	650,000 to 750,000 square feet of building area.*
Transient Housing	300 to 500 rooms.
Residential	2,160 to 2,260 units.
General Business	450,000 square feet of building area.
Parking Garage	27,250 square feet of land area.
Other	
Yacht Club	20,700 square feet of building area.
Sports Center	466,000 square feet of building area.
Marine and Related	71,850 square feet of building area.
Visitors' Center	69,000 square feet of building area.
Lobster Industry	171,000 square feet of land area.**

SOURCE: Boston Redevelopment Authority schedule shown in Appendixes A-1 and A-2 of this report, supplemented by other more recent information.

* Of which 300,000 to 400,000 square feet represents the building the Telephone Company has announced an intention to construct.

** Not to be acquired.

While the preliminary planning proposals outlined above represent substantial amounts of development in total, each consists of a series of relatively small parcels some of which might conceivably be developed as several buildings of limited size rather than as one large building. Therefore, this project provides a unique opportunity for smaller investors, an opportunity which thus far has not been available in urban renewal lands in downtown Boston. For example, the office space category, which totals approximately 650,000 to 750,000 square feet of building area actually represents the 300,000 to 400,000 square foot building which is planned by the telephone company and buildings of 100,000 and 250,000 square feet each. The general business category allows some mixing of uses in rehabilitation of the two Market Buildings totaling 100,000 square feet and includes six buildings totaling 275,000 square feet, three other small parcels, relatively minor amounts of business space in residential wharf buildings, and small existing buildings to be rehabilitated in the Blackstone block. Except for the 1,200 high-rise residential units proposed, the residential disposition parcels might also be developed separately.

The fact that many of these parcels are sufficiently small to be capable of development without a large and highly specialized organizations is very significant in that it increases the number of individuals who might be interested in becoming developers of the properties, either for their own use or for lease or sale.

While the proposed plan for renewal departs for the existing land use pattern in the project area, it constitutes a logical extension of surrounding land uses, including:

1. The financial district which lies immediately to the west of the project area.
2. The potential for development of the harbor-side area, taking advantage of the general atmosphere and view.
3. Accessibility via a number of important thoroughways and connector streets, including the John F. Fitzgerald Expressway.
4. The acceptance of such centrally located areas for residential purposes, as evidenced in part by the success of the approximately 450 apartment units in nearby Charles River Park, the apartment units reconstructed from existing wharf buildings in the project area and relatively close-in housing such as that in Back Bay, Beacon Hill and elsewhere.

In line with the policies of the Redevelopment Authority as set out in the Master Plan and elsewhere, one of the objectives of renewal is to provide adequate housing in a broad mix of prices and forms. To this end, the availability of special financing aids such as FHA Section 221 (d) 3 has been a basic input to the planning studies. Similarly, a broad spectrum of office rent categories is to be made available through providing for both new construction at higher rents and rehabilitation of existing space at more moderate rents. The same approach has been used in planning the commercial sectors of the project.

* * * *

The remainder of this analysis is in general guided by the planning proposals advanced to date. However, rather than testing whether the plan as proposed is feasible based on market considerations, a somewhat more comprehensive approach has been adopted of defining the total extent of the market and comparing this with the planning proposals so that the plan might be adjusted as made necessary by market circumstances.

SECTION II

ECONOMIC BACKGROUND

Prior to analyzing the project area potential for development of various specific kinds of land uses, it is important to establish the economic framework of the Boston metropolitan area and specifically of downtown Boston. The remainder of this section contains data on past and probable future levels of population, income and employment.

Population

The past population of the United States, Massachusetts, the Boston Standard Metropolitan Statistical Area (SMSA)* and the City of Boston has been determined on the basis of Census information and is shown in the table opposite the following page.

* The Boston Standard Metropolitan Statistical Area (SMSA) as defined by the Bureau of the Budget and used by the Bureau of the Census in 1960 is the Boston metropolitan area definitions used throughout this report. The SMSA definition changed between 1950 and 1960, necessitating adjustment of earlier published figures to the 1960 definition. In 1960, the SMSA comprised all of Suffolk County, Massachusetts. (Boston, Chelsea, and Revere cities; and Winthrop town); Cambridge, Everett, Malden, Medford, Melrose, Newton, Somerville, Waltham, and Woburn cities; Arlington, Ashland, Bedford, Belmont, Burlington, Concord, Farmington, Lexington, Lincoln, Natick, North Reading, Reading, Stoneham, Sudbury, Wakefield, Watertown, Wayland, Weston, Wilmington, and Winchester towns in Middlesex County, Massachusetts; Beverly, Lynn, Peabody, and Salem cities; Danvers, Hamilton, Lynnfield, Manchester, Marblehead, Middleton, Nahant, Saugus, Swampscott, Topsfield, and Wenham towns in Essex County, Massachusetts; Quincy city; Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Holbrook, Medfield, Milton, Needham, Norfolk, Norwood, Randolph, Sharon, Walpole, Wellesley, Westwood, and Weymouth towns in Norfolk County, Massachusetts; Duxbury, Hanover, Hingham, Hull, Marshfield, Norwell, Pembroke, Rockland, and Scituate towns in Plymouth County, Massachusetts.

PAST POPULATION GROWTH
(000's)

	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>% Change 1940-60</u>
<u>United States</u>				
Number	132,165.0	151,326.0	179,323.0	+35.7
<u>Massachusetts</u>				
Number	4,316.7	4,690.5	5,149.3	+19.3
% of U. S.	3.26	3.10	2.87	
<u>Boston SMSA</u> ⁽¹⁾				
Number	2,177.6	2,370.0	2,590.0	+18.9
% of State	50.45	50.53	50.30	
<u>City of Boston</u>				
Number	770.8	801.4	697.2	- 9.5
% of SMSA	35.40	33.82	26.95	

PROJECTED POPULATION GROWTH
(000's)

	<u>1965</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>% Change 1960-80</u>
<u>United States</u>					
Number (2)	193,643.0	208,199.0	225,552.0	245,409.0	+36.9
<u>Massachusetts</u>					
Number (3)	5,447.0	5,799.0	6,165.0	6,530.0	+26.8
% of U. S.	2.81	2.79	2.73	2.66	
<u>Boston SMSA</u>					
Number (4)	2,768.8	2,991.3	3,253.0	3,515.0	+26.9
% of State	50.83	51.58	52.77	53.83	
<u>City of Boston</u>					
Number (4)	713.4	728.9	735.5	759.6	+ 8.8
% of SMSA	25.76	24.36	22.61	21.61	

(1) SMSA - Standard Metropolitan Statistical Area. The definition of the Boston SMSA changed between 1950 and 1960. The figures in this table apply to the area included in the SMSA as defined at the time. The 1950 population of the area included in the 1960 SMSA was 2,401,572.

(2) U. S. Bureau of the Census

(3) Adapted from unpublished Census figures.

(4) Adapted from projections made by the Greater Boston Economic Study Commission and by the Boston Redevelopment Authority.

As is readily apparent, the United States, the State of Massachusetts, and the Boston SMSA have shown population increases in the period from 1940 to 1960 and from 1950 to 1960. During this same time span, however, the City of Boston lost population, and this decrease has been most pronounced in the decade of the 1950's.

The stable population in the City of Boston is both a cause and a result of physical deterioration, traffic congestion, and other factors. It is very difficult to make reliable forecasts as to future city population. To a large extent the future population level of the city can be determined by renewal activities, since the population level is in part dependent upon the quantity and quality of the housing stock. Undoubtedly, extensive redevelopment and rehabilitation should help to stabilize population and may even result in an increase. Supporting the viewpoint that, as a result of renewal activity, the population may increase somewhat are expectations that the city's physical appearance will be improved significantly and that perhaps some of the social problems may be solved. Consequently, the City of Boston can once again become a more acceptable place for families and thus the present outflow of population may not only be arrested, but people now residing outside the area may be attracted back to it.

The table opposite shows population projections for the metropolitan area and the city adapted from forecasts made by the Greater Boston Economic Study Commission and by the Boston Redevelopment Authority. The figures shown opposite are believed suitable for planning purposes, subject to the qualifications stated above, but other forecasts have been made showing lower projections for both the city and the metropolitan area.*

* For example, Harvard University's study of Boston schools concluded that total city population might approximate 650,000 by 1970. However, it was emphasized in that study that this figure might be subject to substantial influence by renewal activities. (Source: Harvard University, Boston Schools - 1962: A Report on the Schools of Boston, May, 1962, page A-1.) The Master Plan of the Boston Redevelopment Authority indicates that the city's population should approximate 735,000 by 1975, against a background of outlying neighborhoods stressing child-oriented residential functions and the regional core serving smaller typical families. (Source: The Boston Redevelopment Authority, Draft - 1963-75 General Plan for Boston and the Regional Core, no date, Part 2, page 8.)

FAMILY INCOME TRENDS, METROPOLITAN BOSTON
1949-59

<u>Annual Income</u>	<u>1949</u>	<u>1959</u>	<u>Change 1949-59</u>	
			<u>Number</u>	<u>Percent</u>
Under \$1,000	43,670	15,207	- 28,463	- 65.2
\$ 1,000 - 1,999	49,960	23,312	- 26,648	- 53.3
\$ 2,000 - 2,999	106,340	32,197	- 74,143	- 70.0
\$ 3,000 - 3,999	125,840	45,702	- 80,138	- 63.7
\$ 4,000 - 4,999	79,210	64,861	- 14,349	- 18.1
\$ 5,000 - 5,999	53,840	86,156	+ 33,316	+ 63.1
\$ 6,000 - 6,999	29,195	76,842	+ 47,647	+163.2
\$ 7,000 - 7,999	(	67,392	(	(
\$ 8,000 - 8,999	(36,070	53,207	(+123,909	(+343.5
\$ 9,000 - 9,999	(	39,380	(	(
\$10,000 - 14,999	(	90,769	(	(
\$15,000 - 24,999	(24,985	32,431	(+111,285	(+445.4
\$25,000 - Over	(	<u>13,070</u>	(	(
Total Families	548,110*	640,526	+ 92,416	+ 16.9
Median Income	\$ 3,516	\$ 6,687	\$ 3,171	+ 90.2

* Covers families reporting incomes only.

SOURCE: Census data cited by Robert Gladstone, Downtown Boston Market Studies for Urban Renewal, May 1963, Page 21.

Income Levels

The table opposite shows the rather dramatic increase in family incomes in metropolitan Boston between 1949 and 1959. The fact that median income levels increased more than 90% is of special importance to the outlook for continued growth in the demand for improved housing and other facilities covered in this report. Perhaps equally important is the shift in income distribution which this changing median reflects, whereby there has been a sharp decrease in the number of families in the lower income groups and a sharp increase in the number of families in higher income groups, for example, between 1949 and 1959, there was an increase of 235,000 families in the group with annual incomes of \$7,000 or more.*

Although the historical data are quoted in terms of current dollars and thus include the effect not only of rising standards of living but also of inflation, the outlook is good for continued increases in income due to rising productivity. The extent of this increase is difficult to predict far into the future, but 1975 metropolitan area median family incomes have been estimated at \$10,000 in constant dollars, up to \$12,000 in current dollars.**

Employment

Basic to the future of downtown Boston and to the demand for the various facilities proposed for development in the Downtown Water-front-Faneuil Hall Renewal Project is the future amount and composition of downtown employment. The table opposite the following page shows employment projections by major activity for downtown Boston based on studies of employment history and trends by the Boston City Planning Board. Similar projections for metropolitan Boston as a whole, shown in Appendix B-1 of this report, contemplate a total increase of 188,300 employees during the 18-year period from 1957 to 1975.***

* From 61,055 in 1949 to 296,249 in 1959.

** Robert Gladstone, Downtown Boston Market Studies for Urban Renewal, May, 1963, page 22.

*** The projected rate of increase is equal to about 10,500 jobs per year. Between 1957 and 1962, however, the actual growth rate was greater than 12,000 per year (see Appendix B-2), more than sufficient to accomplish the forecast employment level. Continuation of the 1957 to 1962 rate of increase would result in more metropolitan area jobs than originally forecast. For conservative planning purposes, the original projections are used in this report.

Downtown Boston is expected to share in metropolitan area employment growth, but the distribution of downtown employment is expected to undergo substantial changes. The shift in emphasis from manufacturing, wholesaling and retailing, and construction to office-using activities such as finance, government, and services, reflects downtown's role as the hub of metropolitan area economic activity.

This expected change in the composition of downtown employment is particularly important for purposes of this analysis since it indicates a demand for:

1. Office Space - Part of the increase in downtown office employment could, of course, be accommodated by more intensive use of existing inventory, but the projected increase in the office-using employment sectors is so large (almost 50,000 employees, or more than 35% over the 1957 level by 1975) that a substantial addition to the office space inventory will be needed if this potential is to be reached.
2. Transient Housing - Business travelers, of course, have the option of staying at less centrally-located motels and motor hotels, but the higher levels of commercial activity downtown and Boston's increasingly important role as a financial and governmental center will generate a need for more hotel or motor hotel space convenient to business destinations.
3. Residential - While not all people who work downtown will live downtown or even in the city, many occupants of downtown apartments and townhouses show a high incidence of downtown employment and there is some evidence that people now working downtown would prefer to live closer to places of employment if suitable housing were available.

The increase of 48,350 employees is a better measure of growth in the number of new families who have work-linkages with downtown than the net gain of 25,210 employees, since it is unlikely that many of those in the categories with expected employment decreases now live downtown.

4. Retail and Other Commercial - Providing goods and services at the higher level appropriate to the increased rate of activity reflected in the employment forecasts will call for expanded operations of existing and new firms in and near downtown Boston. Some of these operations can be expected to absorb space formerly occupied by firms whose activities no longer require a downtown location, others will occupy quarters leased or sold to them in new or rehabilitated buildings.

Providing for growth and for replacement of functional, structural and locational obsolescence is, of course, a continuous process, as evidenced by past, present and planned construction activity. Much of the current additions to the inventory of downtown space can be traced to the need demonstrated by ready market acceptance of more and better facilities. One of the basic purposes of this report is to assemble information and to make a judgment as to whether enough facilities are already available or firmly committed or whether there is a need for further construction in the project area.

Summary

The data on population, income and employment presented in this section, show that the economic background for development of office, transient housing, residential, and commercial facilities is encouraging and offers a potential basis for continued development to serve the needs generated by:

1. A metropolitan area population expected to expand by 663,000 or more than 25% between 1960 and 1975.
2. Metropolitan area median family incomes expected to increase from \$6,687 to \$12,000 or almost 80% between 1959 and 1975.
3. Metropolitan area employment expected to expand by 188,300 persons (18.4%) of which net growth in Downtown Boston employment is estimated at 25,200 (12%) between 1957 and 1975. This net increase downtown, reflects a growth of 48,350 in office-using sectors, more than adequate to offset a decrease of 23,100 in other sectors.

SECTION III

OFFICE AND GENERAL BUSINESS SPACE

There is presently a limited amount of office space in the project area. None of this would be considered first-class office space under the standards set by new construction in Boston or elsewhere. Although there is one recent case of private rehabilitation, most of the offices and business establishments in the project area remain typical of those found in fringe locations and are characterized by tenants paying relatively low rents per square foot, in spite of the potential advantages of prestige offices with a harbor view and a location near Boston's financial district.

Since the plan for the project area contemplates some new office and general business construction and rehabilitation, this analysis covers the demand for both new and rehabilitated office and general business space. Further, this assignment requires a distinction between demand resulting from increased economic activity, which is incremental in nature, and unanticipated demand, such as the location of new headquarters in Boston or office space demand generated by major policy decisions by existing institutions to build or rent new office space. These two types of demand are termed "general-purpose" and "single-purpose" office space demand, respectively.

Specifically, the approach used in this report for determining the market potential for new office and general business construction and rehabilitation in the project area is as follows:

1. Examination of the total Boston market as it currently exists in order to determine whether any evidence of softness in the market is now apparent.
2. Investigation of the prospects for growth in the demand for office and general business space, particularly in the project area.
3. Investigation, to the extent information is now available, of the effect of office space to be developed in Boston, either by new construction or by rehabilitation, and the effect of this on the existing inventory and on the probable acceptance of proposed development in the project area.
4. Determination, on a judgment basis, of the amount of office and general business space which might be capable of being built or rehabilitated in the project area, and the approximate timing of its absorption by the market.
5. Comment on the location and form of development within the project area which appears most appropriate in light of the market analysis.

6. Recommendation as to the amount, timing and form of development believed most appropriate and likely to meet ready market acceptance in the project area.

The Current Market

A number of studies of the Boston office space market have been completed in connection with this and other projects, some of which are now under construction. This includes the Real Estate Research market analysis of Government Center; the Robert Gladstone study of Downtown Boston; the Brown, Harris, Stevens report on this project; and others. In preparing this analysis, reference has been made to all available earlier studies and the conclusions of these have been checked and updated for use in this report, although no attempt has been made to reproduce all of the material contained in these previous studies here. However, the following points are relevant for purposes of this analysis:

1. There are various estimates of the total downtown inventory of office and general business space in recent years, ranging from the Boston City Planning Board's estimate quoted as 24,000,000 square feet, and Gladstone's 20,000,000 to 22,000,000 square feet,* to an unofficial estimate quoted at 17,000,000 square feet.

All of the inventory estimates cited above include both single-purpose and general-purpose office and general business space, and all the various levels of quality available in downtown Boston. While no detailed reinventory is within the scope of this study, these inventory estimates appear to be on the generous side, reflecting the rather broad scope established definitionally and geographically. It is important that these facts be kept in mind in using these inventory estimates until more detailed and definitive data might be made available by interested groups.

2. The inventory of medium or better quality downtown office and general business space is estimated at between 5,500,000 to 6,000,000 square feet, in addition to approximately 4,000,000 to 5,000,000 square feet occupied by single-purpose tenants. The remaining inventory consists of lower quality space.

* Including a rather extensive geographic area in its definition of downtown, and including a variety of subgroups within its office space definition: banking, insurance, professional, and business offices; wholesalers without stock; administrative offices of manufacturers and independent office areas for retailing organizations; government offices located in privately owned buildings; and offices and other areas occupied by charitable groups, fraternal organizations, churches, and public utilities.

NEW OFFICE BUILDINGS, DOWNTOWN BOSTON
1957-62

<u>Office Building</u>	<u>Approximate Rent Per Sq. Foot Per Year</u>	<u>Gross Square Footage</u>
Travelers Building	\$6.00 - \$6.50	225,000
Blue Cross-Blue Shield Building		125,000
Liberty Mutual Insurance	\$5.50 - \$6.00*	225,000
IBM Building	\$5.50 - \$6.00	70,000
McGraw-Hill Building	\$6.00 - \$6.50	38,000
Remington Rand Building		36,000
White Fund	\$5.50	<u>31,000</u>
TOTAL		750,000

* Applies to 20,000 to 25,000 square feet leased to other users.

SOURCE: Robert Gladstone, Downtown Boston Market Studies for
Urban Renewal, May 1963, Page 54.

3. Rents in downtown Boston generally appear to be high as compared with other cities, possibly reflecting the higher than usual taxes. \$6 to \$7 per square foot represents the top of the market and is being obtained in several buildings, including the Liberty Mutual Building, the John Hancock Building, the IBM Building, the McGraw-Hill Building, the Travelers Insurance Building, and the leases signed thus far for the Prudential Tower under construction in Back Bay.

Space in renovated buildings in good locations is renting for up to \$4.50 per square foot. The Sheridan Building, recently remodeled, contains about 290,000 square feet of rentable commercial office space. It is understood that the rehabilitated space was readily absorbed on the market at rents between \$3.75 and \$4.50 per square foot.

4. No definitive figures on the current vacancy rate are available. However, studies by Gladstone and Brown, Harris, Stevens both concluded that vacancies in the 5,500,000 to 6,000,000 square feet of better quality space in downtown Boston range between $4\frac{1}{2}\%$ and 5%, and exceed 12% in lower-quality, walk-up space, most of which is old and in poor condition.
5. From the early 1930's until 1957, there was little change in the downtown office space inventory except construction of the Liberty Mutual and John Hancock Buildings.
6. Between 1957 and 1962, approximately 750,000 square feet was added by new construction (see table opposite) and about 650,000 square feet were renovated. These buildings, some of which are single-purpose structures, apparently were leased without difficulty, representing an annual average absorption of new and renovated space of 280,000 square feet per year during the five-year period.
7. At the end of 1962, 2,850,000 square feet of office space was under construction or in sufficiently advanced planning stages to be capable of completion before 1966 (see table facing the following page). Of this, 1,625,000 net square feet had already been leased, representing about 2,000,000 gross square feet. Converting this to a five-year average yields an annual absorption rate of 400,000 square feet, a total of 680,000 square feet per year absorbed in leasing of new, planned and renovated office space in downtown Boston.

PROPOSED NEW OFFICE BUILDINGS
DOWNTOWN BOSTON, POST-1962

<u>Office Buildings</u>	<u>Probable Completion</u>	<u>Tenancy</u>	<u>Net Office Space (Sq.Ft.)</u>
New England Mutual Building Addition	1963	Single	250,000 to 300,000
Prudential Tower	Early '64	Both*	1,000,000
Traveler's Extension	Mid '64	General	80,000
British Properties	Early '65	General	800,000
Government Center-Parcels 8 & 12-Other:	Mid '65 -Post 1965	Both***	575,000 3,652,000
Scattered Sites	Various		150,000***
TOTAL By 1965			2,855,000 to 2,905,000
TOTAL Including Post 1965			6,507,000 to 6,557,000

* Two-thirds of which is to be available for other tenants.

*** Total Government Center:

State Government (Mental Health Clinic, Health, Education, Welfare Building; and Employment Security Office) 827,000

City Hall (replaces present City Hall) 500,000

Federal Building (includes replacement for about 500,000 square feet of private space now government occupied.) 900,000

Private Space (includes replacement for 60,000 square feet demolished in Pemberton Square area) 2,000,000

TOTAL 4,227,000

Note: Government space is shown at 2,227,000 square feet in this table. Reuse controls would allow maximum construction of substantially more than this.

*** Taken at 5-plus percent of space specifically projected by 1965; a portion of this small lot total is already firm.

SOURCE: Gladstone, op. cit., page 63, supplemented by other information.

At this rate, the remaining 1,225,000* net square feet to be made available as a result of planning and construction already underway should be absorbed by the time the additional 3,650,000 square feet of Government Center space begins to come on the market.

8. It is understood that some firms still have to maintain operations in various scattered locations and suitable space for consolidating these operations is scarce or not available.
9. During the recent period of construction since 1957, single-purpose office space has accounted for 50% to 55% of all new office developments, including both privately owned and government buildings. Even taking into account the substantial amount of space to be developed in Government Center, this ratio appears likely to hold during the foreseeable future.

To summarize, the current office space market gives no evidence of being overbuilt. New and rehabilitated space has been readily absorbed at relatively high rent levels. Although most of the office and general business space in the city is old, and a substantial portion of it is not up to competitive standards established by new and renovated buildings, vacancy rates appear to be quite low. Some evidence of potential pent-up demand is available in the rate at which vacated space is leased when it is put on the market, in the amount of leasing that has been accomplished prior to opening of planned new buildings, in the low vacancy rate and relatively high rent levels, and in the fact that firms wishing to consolidate or expand their office space reportedly have difficulty in finding suitable quarters.

Prospects for Growth

The employment projections for downtown Boston, shown in Section II - Economic Background - indicate a prospect for substantial growth in office-type sectors downtown. Employment in these activities probably offers the best means for forecasting future office and general business space demand, but, of course, is subject to a number of important qualifications, some of which are inter-related. These include:

* This figure represents the amount of office space expected to be completed before 1966 (2,850,000 net square feet) less the portion already leased (1,625,000 net square feet).

1. Variation in the number of square feet per employee, depending on the mix between executives and clerical workers; the amount of space required for record keeping and other functions; decisions regarding the amount of ancillary space, such as meeting rooms, libraries, lounges, etc., to be provided; and other considerations.
2. Compressability of existing space, i.e., the extent to which an expanded scope of activities involving increases in the number of employees could be accommodated without increasing the amount of space used.
3. Tenants' philosophy with regard to allowing space for future expansion, particularly in planning and developing single-purpose buildings.
4. The amount of demolition which might occur, thus necessitating provision of replacement space.
5. Perhaps most important, the degree to which the downtown employment projections themselves might be influenced by the cost and availability of space downtown as opposed to elsewhere.

Keeping these qualifications in mind, it is possible to project demand for downtown office and general business space on the basis of expected increases in office-type employment.

As shown in Section II, the net increase in downtown employment in private and government office sectors between 1957 and 1975, is estimated at 48,350 persons.* Assuming an average of 200 square feet per employee,** this increase in employment would be sufficient to support an additional demand for 9,670,000 square feet of downtown office space between 1957 and 1975. However, as pointed out previously, some 750,000 square feet of downtown office space was built in the period between 1957 and 1962. Allowing for this, there would be a residual increase in downtown office demand of 8,920,000 square feet applicable to the 13-year

* This includes employment in finance, utilities, services and miscellaneous, and government sectors.

** Previously studies of downtown Boston office space showed that there is currently an average of 200 square feet per employee, assuming a very broad definition of office space and office employment. This figures sometimes ranges upward of 300 in executive office buildings, but somewhere between 150 and 200 is more usual.

period between 1962 and 1975. From this should be deducted the amount of downtown office space now under construction or firmly planned. This space listed earlier in this section, totals 6,500,000 square feet, leaving a residual unsatisfied demand of 2,420,000 square feet.

In addition to the approximately 2,500,000 square foot net increase in demand, some of the existing inventory will require replacement between now and 1975. If the lower inventory estimate of 17,000,000 square feet is assumed and replacement proceeds at the rate of $\frac{1}{2}\%$ per year, the need due to replacement alone would be 1,020,000 square feet by 1975. Combined with the net increase in demand, this would indicate a total demand for 3,500,000 square feet of new office and general business space by 1975.

This includes space needs of both private and government sectors, since the government comprises a substantial part of the expected increase in office employment. It is not possible to allocate new space between private and public buildings since this depends on government policy as to building for their own use or leasing space in private buildings. Experience indicates that government tends to lease private space as their needs gradually grow, undertaking construction of large blocks of space when sufficient demand has been accumulated to justify major additions to government quarters.

For purposes of this report, the residual unsatisfied demand is used as an indication of the net amount of new and rehabilitated office and general business space which the market can absorb over and above that now under construction or firmly planned. This is believed exceedingly conservative since,

1. It includes an allowance of 2,227,000* square feet of space in government buildings not available to private tenants, while only about 500,000 square feet of space, none of which is Class A, is to be vacated by the government and made available on the private market as the various agencies move into their new facilities in Government Center.
2. It assumes that all known, planned buildings will be filled before any market is available to additional developments although, in fact, both known planned buildings and others which might be built in the future would share in the available market to the extent of their relative competitive advantages.

* This figures is an approximation of the total amount of government office space in Government Center. (See table facing page 30.)

3. The assumption as to the rate of replacement resulting from obsolescence and/or demolition is conservative in view of the present age and condition of much of the space inventory.

Effect on the Existing Office Space Inventory

Being based on expected increases in office-type employment, the demand projections above include the growth in need for office space in new buildings as well as in rehabilitated buildings. The sifting process whereby firms moving into new quarters, vacate lower-quality space making it available for use by businesses formerly occupying space of the next quality level, is well known. This represents the means by which the private economy accommodates growth and provides for maintenance or improvement in the inventory of available space.

Thus, the acceptance of space vacated by tenants moving into new buildings has been very good. For example, it is understood that a replacement lease had been signed last April for United Fruit's space to be vacated in the Liberty Mutual Building when they move into their 200,000 square feet in the Prudential Tower. According to R. M. Bradley Company representatives in charge of leasing the Prudential Tower, this situation is typical, i.e., space to be vacated when the Tower is occupied is being renovated (air conditioned, etc.) and leased to tenants now in \$2.50 to \$3.00 space. This corresponds to the experience of the Sheraton Building recently remodeled and enjoying full occupancy at rents of from \$3.75 to \$4.50 per square foot.

While fragmentary data which is available suggests that the space in well-located modernized buildings is readily absorbed and that leasing is proceeding well for new buildings now under construction, this fact represents a migration from lower quality to higher quality space. Unless there are substantial demolitions or conversions to other uses, the lowest quality office space probably will experience rising vacancies as better quality space continues to become available.

Office and General Business Space in the Project Area

There seems every reason to believe that the project area can compete for a share of the residual unsatisfied demand based on growth alone as well as for a share of the replacement demand generated by obsolescence and/or demolition. The former amounts to about 2,500,000 square feet, the latter 1,000,000 square feet or a total demand of 3,500,000 square feet.

The approximately 1,200,000* square feet proposed for development in the project area represents about 30% to 35% of the total unsatisfied demand expected to be available in the downtown Boston market. Some 300,000 to 400,000 square feet have already been committed to the telephone company, and interest in 100,000 square feet of the remaining 700,000 to 800,000 square feet has already been expressed, leaving about 600,000 to 700,000 square feet to be marketed. Whether more space will be needed will depend on the number of larger general business/office type tenants who can be attracted to the area. One significant means of encouraging such tenants to enter the project is to make small sites available and to keep rehabilitation costs down so that lower rent space will be available.

The reuse controls should permit accommodation of the 30,000 to 50,000 square feet expected to be needed to supply the convenience retail and service needs of the resident population, and an additional 65,000 to 75,000 square feet to provide services for the employees and businesses to be located in the project area, as well as restaurants and similar facilities related to the flow of tourists and other visitors.** No special action is necessary to provide for this possibility since sites now designed for office and general business use could satisfy commercial requirements. However, it is recommended that no fixed limit be established in the plan regarding the maximum amount of space that might be taken by commercial, as opposed to office or general business, tenants.

The time period to which these estimates apply extends to 1975. Since the growth in demand is gradual while the growth in the supply of competing space generally is not, timing of development in the project area is most important if leasing is to be accomplished expeditiously. The information developed during the preparation of this report suggests a favorable leasing market for large blocks of first-quality space by about 1965. By that time, leasing in buildings now planned or under construction (except that part of Government Center to be developed after 1965) will be sufficiently far advanced so that large blocks of space will be difficult to obtain unless development of additional

* Consisting of 650,000 to 750,000 square feet of office space (including the 300,000 to 400,000 square foot telephone company building) and roughly 450,000 square feet of general business space.

** See Appendix F for a discussion of the market for retail and other commercial space in the project.

buildings about which knowledge is not now available should change the situation. The relocation of major tenants into the new buildings will tend to have a softening effect on the leasing market for smaller blocks of space which normally are not committed for in advance of actual occupancy. If the announced completion dates prove attainable, this situation should occur in both 1964 and 1965, with some relief evident by 1966 or 1967.

It seems reasonable to expect the new space proposed for the project area to be rentable at approximately the same amount as other well-located new space in downtown Boston, that is, at \$5 to \$6.50 per square foot. However, actual rent levels will, of course, depend on a number of factors, including the specific location within the project area, the amount of space taken by a single tenant, the credit of that tenant, the length of the lease, the tenant's location within the building, the amount of services provided to the tenant and included in the rent, etc.

Rents in rehabilitated space probably should range between \$3.25 and \$3.75 per square foot, depending on the same factors as those listed above with regard to new buildings and on rehabilitation standards.

SECTION IV

TRANSIENT HOUSING

Although no hotels or similar transient housing accommodations now exist within the project area, the development of a hotel or motor hotel has been proposed. In order to test the feasibility of this proposal and to meet the requirements of Section 106 (G) of the Housing Act of 1949 as amended, this report examines the current and expected future transient housing situation in the Boston area as it relates to the proposal. Specifically, this includes:

1. Examination of the current market situation to test for evidence of softness on demand or for gaps in the supply.
2. Determination of the prospects and sources of growth in the market.
3. Evaluation of the supply of facilities at various quality levels, both existing and proposed, available to meet the demand.

The Current Transient Housing Situation

Many of Boston's existing hotels are 30 or more years old and the condition of the structures would not be judged competitive by new construction standards. Nevertheless, occupancy levels appear to be high, possibly more than 70%.*

It is estimated that there are about 15,000 hotel and motel rooms in the Boston area, about 6,500 of which are located downtown or near downtown and 4,500 of which are located elsewhere in the City of Boston. The quality (air-conditioning, private baths for each room, and convenient and ample parking) varies considerably, so that not more than half of those downtown would be considered first-class.

In response to the existing and expected future demand, there has been a substantial amount of motel and motor hotel development outside downtown Boston, both through construction of new units and

* Definitive and complete figures on the occupancy situation in Boston are not available. Various estimates have placed the average occupancy at between 68% and 77%. The difficulty of obtaining hotel accommodations, particularly in downtown Boston attests to the high occupancy level.

through expansion of relatively new units which apparently were built against too conservative estimates of the market. The figures showing an increase in the number of motels from 36 to 71 between 1954 and 1958, the most recent period for which complete and reliable data are available, and an accompanying decrease in the number of hotels from 136 to 124 suggest a rapidly shifting emphasis from hotel toward motel accommodations. However, taken as total, the number of hotels and motels has been increasing at the rate of six or seven per year, all of which have been outside downtown Boston.

The number of rooms per unit has been relatively small in the past, a situation which will be subject to change due to construction of the 1,000-room Hotel America in Prudential Center, the 400-room Motor Inn in Government Center, the 250-room West End Motor Inn and the 400-room Cambridge Charter House. These projected units together with others which might be developed outside the Downtown Waterfront-Faneuil Hall Renewal Project would add a total of about 2,900 rooms to the inventory.*

The following table shows recent absorption rates, as well as the distribution of the present inventory of rooms.

Changes in the Supply of Hotel-Motel Rooms

	<u>Inventory 1963</u>	<u>Added 1959- 6/62 (3½ yrs)</u>	<u>Added 6/62 to 6/63</u>	<u>Proposed of Under Construction</u> (1)
Hotels (2)	<u>6,125</u>	None	None	<u>1,400</u>
Downtown	2,275			None
Back Bay	3,850			1,400
Motor Hotels & Motels (3)	<u>2,187</u>	<u>1,437</u>	<u>750</u>	<u>1,075</u>
Close to Downtown Boston	1,510	900	610	1,010
Outskirts of Boston	677	537	140	65

* See Appendix E for a list of new and proposed hotels and motels and an estimate of the number of rooms in each.

- (1) Includes specific units known to be proposed or under construction.
- (2) Satisfactory quality only.
- (3) Excludes Massachusetts Bay motels.

Sources of Future Demand

Demand from a variety of sources underlies the existing high occupancy levels and provides a basis for additional hotel-motel construction. The largest segments of demand come from:

1. Meeting and conventions.
2. Business travellers.
3. Tourists.
4. Visitors to institutions and special events.
5. Guests of local residents.

Each of these sources of demand is discussed individually in the paragraphs immediately following.

1. Meetings and Conventions - The number of delegates visiting Boston in connection with meeting and convention activity approximates 170,000 annually. It is expected that this number will increase when Boston's ability to cater to large gatherings is substantially improved by the opening of the convention facilities now being developed at Prudential Center. Along with Boston's improved convention facilities which will allow it to be considered as a site for larger conventions than it could previously handle, Boston can be expected to share in the nationally increasing convention market.

Sleeping room requirements are in the 5,000 unit range for top conventions such as the new exhibition-convention hall is capable of handling. Even with the new 1,000-room Hotel America being developed as part of the Prudential complex, there are only about 4,000 rooms in hotels and motels in and near downtown Boston available to be pledged to conventions.*

* The total supply of hotel and motel rooms is, of course, much greater than the 4,000 which can be pledged for conventions. However, some establishments do not cater to convention needs due to location, quality, or management policy. Further, most hotels will pledge only a portion of their facilities for convention use. For example, the 1,350-room Statler will commit only 800 rooms, the 1,000-room Hotel America will commit only 600 rooms, etc.

Of course, not all of the approximately 200 conventions held in Boston annually are in the top size category. In fact, about 40% of these normally involve 250 or fewer delegates. Thus, smaller hotels and motor hotels with meeting rooms and convention facilities are able to cater to some convention needs, in addition to making facilities available to accommodate overflow connected with larger conventions.

2. Business Travelers - There are at present more than 1,000,000 jobs in the Boston metropolitan area, and the number of jobs is expected to increase by 50% by 1975. Boston as a business center plays many roles tending to increase both the incidence of business connected travel and the need for transient housing accommodations. Among these roles are:
 - A. A center for governmental functions - The scores of federal agencies located in Boston employ approximately 45,000 civilians in addition to military personnel. As the capital of Massachusetts, Boston is the site of the state legislature and of the executive, regulatory and administrative agencies.
 - B. Finance - Boston has long been a center of financial and insurance institutions with investments spread throughout the United States. A need for transient housing accommodations is generated by those making investment presentations and other activities connected with funding national business operations.
 - C. Manufacturing and marketing - Boston apparently has experienced less decentralization in industry and marketing than many cities of similar size and age. Visitors to the estimated 2,400 in-city manufacturing establishments form another source of demand for hotel-motel facilities.
 - D. Legal and other professions - Legal, research, consulting, and other professional activities require travel on a national and international level, both by professionals living in Boston and by clients visiting Boston firms.
3. Tourists - The Federal Reserve Bank of Boston estimates that tourism is a \$1 billion business in the New England region. Of the 1.5 million to 2.0 million tourists visiting Boston annually, it is likely that many stay at least one night. The number of tourists and the length of stay probably can

be expected to increase in the future due to increases in income, leisure time, and mobility. With its many historical and cultural attractions it seems likely that Boston will share in this increase.

4. Institutions and Special Events - The well-known and highly respected educational, medical-dental and religious institutions in the Boston area generate a substantial amount of travel each year. Another group of travellers is attracted by the year-round calendar of professional and amateur sporting events.
5. Nearby Residents - The number of persons visiting relatives and friends in the Boston area can be expected to increase as population grows and as the amount of available income, leisure time, and mobility continues to increase. The trend toward apartment living will mean that visitors will tend to seek accommodation in transient housing facilities since guest rooms in private homes are becoming less and less usual.

Each of the factors listed above has significance for the proposed Waterfront motor hotel development. It is expected that some convention visitors will prefer to stay in the proposed motor hotel because of the attractiveness, convenience, and prestige associated with its waterfront location close to financial and other business activity. The fact that convenient and adequate parking will be available will further increase its attractiveness. For business travelers, the proposed motor hotel is located close to downtown, the destination of many business visitors, and is convenient to the airport, the expressway, and Callahan tunnel. Its location close to Faneuil Hall, the Freedom Trail, and the aquarium and exhibits to be located in the project area will make the waterfront motor hotel convenient and attractive to tourists. Some business can be expected from those visiting Boston in connection with its institutions and special events, particularly should plans go forward for the new Boston coliseum and stadium in the South Cove area near Fort Point Channel. The waterfront motor hotel will be convenient to guests of the residents of the new apartments and town houses to be located in the waterfront project area.

The Supply

The difficulty of obtaining rooms without advance reservations results in travel plans having to be cancelled or arranged to allow for overnight stays outside downtown Boston or outside the area altogether. Since persons who travel regularly take into account the

availability of hotel-motel accommodations in planning their itineraries, the current problem in obtaining suitable accommodations in Boston must be causing a number of these to arrange overnight stays in other cities. Were the inventory of transient housing accommodations expanded sufficiently so that reservations so far in advance would not be required and so that centrally located space competitive with that available in other cities were offered, the realignment in itineraries in itself could be sufficient to provide major support for new facilities.

The current situation is similar to that which existed several years ago. It was the fact of pent-up demand which allowed about 2,200 rooms* to be added in the $4\frac{1}{2}$ years between 1959 and mid-1963 with little change in occupancy levels. The continuing high occupancy level and the difficulty in obtaining accommodations indicate that pent-up demand still has not been satisfied and will be available to support further new construction.

Aside from the amount of space available, the location of existing quality facilities is not ideal to serve future demand in at least two respects:

1. More central as opposed to suburban space will be needed in keeping with the growing activity downtown. This need is reinforced by the emphasis which highway improvements put on the downtown area.
2. There are no hotels or motels on the waterfront, the closest being the proposed Government Center motor hotel several blocks away. Revitalization of the waterfront, including the approximately 650,000 to 750,000 square feet of office space, 450,000 square feet of general business space, 2,200 residential units, and tourist attractions, forms the nucleus for demand to support the proposed motor hotel. Added to this is the unique attraction of a waterfront location, highly accessible to the airport, to the highway transportation network, and to the financial district.

* Of which about 1,500 are close to downtown Boston.

Summary

Against the background of a transient housing market needing additional space at present, all indicators of demand show upward trends with increasing emphasis on the downtown area. It is believed that the present inventory of downtown quality hotel-motel space could be increased 90% to 100% by 1975 simply to serve pent-up demand and the growth in the market.

While construction of a total of 2,400 units in or near downtown Boston is known to be planned, a large portion will be required simply to satisfy identifiable demands which do not presently exist. For example, the proposed auditorium and the 1,000 room Hotel America, and the proposed 4,000,000 square feet of office space and the Government Center facility.

The waterfront is a highly desirable site for transient housing development, not only from the standpoint of a prospective developer, but also from the standpoint of allowing the City of Boston to locate it in a planned environment within the city where benefits will be available in the form of convenience to guests and revenue to the city.

The current underbuilt character of the downtown market, the prospects for growth, the lack of accommodations in the vicinity of the site, and the unique attractiveness of the site for purposes of motor hotel development indicate that a need exists for additional housing and a market exists for project area land for this purpose.

SECTION V

RESIDENTIAL

The project area now contains some residential accommodations, varying in quality from extremely low-rent units to reconstructed units renting well in excess of \$100 per month. The acceptance of higher rent housing in the project area has been very satisfactory, but the total inventory of such housing still is very modest as compared with the number that might potentially be accommodated under the plan. The fact that relatively little residential development has yet been accomplished in the project area is of little consequence for this analysis, since the renewal activity could operate not only to change the total environment but also to make sites available for residential development on a relatively large scale. It seems logical to expect the proposed renewal housing to draw tenants from the broad metropolitan area market and to have particular attractiveness because of its waterfront location and convenience to downtown employees.

Since development of medium and high density housing is being considered both through new construction and through reconstruction and conversion of existing project area buildings, this analysis covers the market considerations for both housing forms. On the basis of anticipated family and income characteristics of future residents in the project area, this analysis makes recommendations as to an appropriate mix of apartment sizes, and rent requirements. It is expected that the rental levels necessary to support the reconstruction proposals will be determined through analysis of cost and layout studies when these are made available through the Corporation staff.

Specifically, the approach used in this report for determining the market potential for residential development in the project area is as follows:

1. Examination of the metropolitan area, city, and close-in housing market to find any evidence of softness in market demand or of overbuilding.
2. Analysis of the prospects for growth in housing demand, related to population, household formation, and employment in metropolitan and downtown Boston and to housing needed to replace that lost through depreciation, demolition, etc.

3. Evaluation of competing housing developments sufficiently similar to those proposed for the project area that they might be considered alternatives by prospective residents.
4. Determination, on a judgment basis, of the share of the potential housing market which project area facilities might be able to compete for against alternative housing expected to be on the market during the time when the project area facilities will be actively leasing or being offered for sale.

The Current Housing Situation

In the decade of the fifties, additions were made to the metropolitan area housing inventory at a faster rate than population grew, but vacancies remained low. This was due, in part, to losses from the housing inventory from demolitions and other causes and to a decrease in the average number of persons per household. The gross vacancy rate, defined as the total number of vacant dwelling units related to the total supply of dwelling units was 4.5% in 1960. However, since some of these units were dilapidated or held off the market for various reasons, the net vacancy rate, defined as the number of undilapidated vacant units available for rent or sale related to the total housing inventory, is more meaningful. The net vacancy rate in 1960 was 2.5%. The table below shows the number of dwelling units and population and the amount of increase in each between 1950 and 1960.

	<u>1950</u>	<u>1960</u>
Dwelling Units	687,843	772,404
Population	2,410,572	2,589,301
	<u>Increase 1950-1960</u>	
	<u>Number</u>	<u>Percent</u>
Dwelling Units	115,439	19
Population	178,729	7

SOURCE: U. S. Census of Housing: 1960, HC(4), Characteristics of the Housing Inventory, Totals and New Construction, 1959 and 1950, Table I. In order to remain consistent with the 1950 Census data, dwelling units were used instead of housing units in both 1950 and 1960 data in the table. In addition, both 1950 and 1960 figures apply to the geographic area included in the Boston SMSA in 1960.

The average quality of occupied housing improved, and there were 9,000 less dilapidated occupied renter and owner housing units in 1960 than in 1950. There were 8,300 more dilapidated vacant units, and the total number of dilapidated units existing in the metropolitan area remained the same. The 85,000 dilapidated and deteriorating units which continued to be occupied in 1960 represent a present and potential problem in developing new housing in some areas, but likewise, indicate further potential for marketing new and rehabilitated housing, since income levels are rising and more and more families are able to take advantage of better quality housing being offered on the market.

Of the 151,241 units added between 1950 and 1960, 101,423 represented new construction, 34,322 were converted to housing from other uses, and the remaining additions to the inventory came from merger and other sources.

Building permits granted in the city and the metropolitan area provide useful information for purposes of verifying Census data, showing cyclical fluctuations in building activity, indicating the city's share of metropolitan area building, and approximating the apartment share of total residential construction. Analysis of this information, detailed supporting data for which appears in Appendix C, indicates the following results:

1. Total residential building permits issued on the Boston metropolitan area in the decade of the fifties was 111,071. This is a very high degree of correlation for this type of data and indicates that the coverage of permit issuing places is quite complete in the Boston area. The relatively small difference is probably due to the fact that Census material covers a few months less than the permit data and some dwelling units for which permits were issued during the decade probably were built in a later period, while some units built during the fifties probably had permits dated earlier.
2. The city's share of residential construction varied between 5% in 1957 and 32% in the first six months of 1963. Since 1950, the city's share of new construction has approximated 15%.
3. Residential building permit applications show that the percent of residential construction in multifamily units varies widely and has ranged between 5% and 95% in the last 10 years in the city. During the decade of the sixties, apartments* have represented 75% to 85% of all applications for residential building permits in the city.

* For purposes of this discussion, apartments are defined as all housing units except single-family homes.

The material presented thus far shows that the metropolitan area housing market has been able to absorb more than 15,000 units annually due to growth in population and in the number of households, decrease in average number of persons per household, and upgrading of the housing inventory through demolition and rising vacancy rates in dilapidated and deteriorating housing units.

Sufficient data are available to indicate that the City of Boston accounted for approximately 15% of all dwelling units authorized by building permits since 1950. However, these permits apply only to new construction which has been running at an average annual rate of approximately 10,000 units in the metropolitan area, while Census data shown that gross additions from new construction and other sources amounted to about 15,000 per year during the decade of the 50's. Assuming that inventory additions will continue to be made from other sources than new construction and that the city will share in these to the same extent it shares in new building, a gross addition to the metropolitan housing stock of 15,000 units would imply that about 2,250 of these would be located in the city.

At the present time, in spite of the additions to the inventory during the last 10 years, the city's housing stock would be considered relatively old, since about 50% of the housing units were built prior to 1919. Only 81.8% are considered sound. The ratio of renters to owners in the city is 3:1, indicating a high degree of acceptance for rental accommodations. Further, in 1960, only 16.9% of income was spent for rent. With rising incomes* and decreasing household size, it seems likely that more and more families will be entering the housing market and will be willing and able to support higher quality apartment units than are now available.

Most of Boston's new housing, both apartments and single-family units, has been built in the suburbs and until recently there were few high-rise residential buildings anywhere in the metropolitan area. In order to obtain at least a limited amount of information on the characteristics of newer apartment buildings in Boston and the surrounding area, about 30 buildings containing approximately 4,500 to 5,000 apartment units were visited. It must be emphasized that this group of buildings in no way constitutes a scientific representative sample. The selection emphasized apartments in Brookline and Brighton and includes some developments in Cambridge as well as a scattering of buildings

* Based on Census data, about 235,000 Boston metropolitan area families entered the \$7,000 and over income category between 1949 and 1959.

beyond these areas. The emphasis in assembling the data has been on newer and higher rent buildings, but a few developments outside this category are included as well.

The tables following summarize some of the more significant data on the various apartment buildings existing and to be constructed in the City of Boston and adjacent areas. As the table suggests, many new apartment buildings are located in these adjacent suburbs, there are relatively few in close-in Boston locations at present. However, buildings opening recently have met a favorable reception in the leasing market and additions of substantial size are planned or underway in several cases.

Rent levels in the new buildings sampled generally are above \$100 for efficiencies, and \$150 is not uncommon. Similar figures for one-bedroom units are \$150 to \$180, for two bedrooms \$180 to \$250, for three bedrooms \$300 and more.

Apartments are available in a wide range of sizes, but efficiencies and one bedrooms predominate in the buildings surveyed in Boston. Most of the vacancies throughout the survey were found to be in two and three-bedroom units and in large townhouses. Further, it is understood in at least one case (Charles River Park) that the second stage now under development will put more emphasis on efficiencies and one-bedroom units rather than on the larger units. This reflects, in part, leasing experience for the first stage and, in part, the current waiting list which consists of six prospective efficiency tenants, twelve prospective one-bedroom tenants, and no prospective tenants wait listed for two and three bedroom units.

While relatively high vacancies were reported in some of the buildings surveyed, this is believed attributable to special circumstances such as significantly higher rents than prevailing in the neighborhood, design problems, etc., and in many cases, the buildings have only recently been put on the market.

To summarize, it appears that offerings of new apartments are being reasonably well received in all size and price categories, but that best results accrue to buildings offering efficiencies and one-bedroom units.

In addition to new apartment buildings, there has been some rehabilitation of older houses and conversion to housing from other uses. Examples of rehabilitation are found in Back Bay and elsewhere, and the most outstanding examples of conversion are the wharves in the project area itself. All indications are that these converted apartments have

SELECTED APARTMENT BUILDINGS - EXISTING AND PROPOSED

BOSTON AND VICINITY

	<u>Opening Date</u>	<u>Number of Floors</u>	<u>Number and Price of Units</u>		
			<u>Total</u>	<u>Effic.</u>	<u>1-Bedroom</u>
1a. Charles River Park 60 Charles Street	1962	17 & 24	448	\$130-\$160 (286 Units)	\$181-\$225
b. Charles River Extension	u/c * fall-1964		440	Less 3 bedrooms, more efficiencies and one- bedrooms.	
c. Second Charles River Extension	spring-1964 construction				
2. White-Fund Development 151 Tremont St. overlooking The Commons		25	380	\$165 to \$500	
3. Hotel Bellevue	converted 1961-1962		158	\$150 to \$175	
4. 100 Memorial	late-1940's		100-150	Basically 1, 2, and 3-bedroom units with about 25 renting for \$250 or more.	
5. 330 Beacon Street	1960	17	72	0	\$300
6. Prudential Center			500 1,000 ultimately	\$78 per room	
7. Charlesbank	1963	24	276	138 Units \$95-\$140	138 Units \$130-\$157
Charlesbank Extension		22	144-300+	\$150 to \$180	

* Under Construction

SELECTED APARTMENT BUILDINGS - EXISTING AND PROPOSED

BOSTON AND VICINITY

<u>Number and Price of Units</u>			<u>Vacancies</u>	<u>Parking</u>	<u>Comments</u>
<u>2-Bedroom</u>	<u>3-Bedroom</u>	<u>Penthouses</u>	<u>(Oct. 1953)</u>		
\$258-\$330 100 Units	\$282-\$425 44 Units (includes 18 town- houses at \$365-\$425)	\$365-\$425	2% overall (includes 5 townhouses & 3 3-bed- rooms)	70% Gate \$12 Assigned - Open \$15 Covered \$25 308 Spaces Underground	Total development alti- mately to contain 2,400 units on 48 acres. All 2 and 3 bedroom apart- ments have 2 baths. Pool Two-year leases.
Less 3 bedrooms, more efficiencies and 1-bedrooms				100%	Waiting list: 6 for efficiencies, 12 for 1-bedroom, none for 2 and 3 bedrooms. Pool.
	\$165 to \$500			100%	Some retail
				5-story ga- rage	
	\$150 to \$175				
Basically 1, 2 and 3-bedroom units with about 25 renting for \$250 or more.			None		
\$400-\$450	\$500-\$750	\$950	None	Covered \$25.	Most tenants in older age groups. About half formerly lived outside Boston
	\$78 per room				Working drawings done.
0	0			Indoor and outdoor	Balconies - Section 121A non-federally aided. 7.5 acre site. Re- ported to be renting very well.
	\$150 to \$185				

SELECTED APARTMENT BUILDINGS - EXISTING AND PROPOSED

BOSTON AND VICINITY

(continued)

<u>Number and Price of Units</u>			<u>Vacancies</u> <u>(Oct. 1963)</u>	<u>Parking</u>	<u>Comments</u>
<u>2-Bedroom</u>	<u>3-Bedroom</u>	<u>Penthouses</u>			
All in \$200 up range			2%		Pool.
\$350 up			10%		Pool. All 1 and 2- bedroom units leased.
					Waiting list.
\$185 up				Indoor \$20 Outdoor \$12	Terraces
\$500 5 units (2-bedroom 2 bath)			45%	62 spaces in- doors, addi- tional out- doors. \$25	Balconies, older age group (55 to 60). Pool. Tennis courts.
\$600 up					

SELECTED APARTMENT BUILDINGS IN TOWN AND COUNTRY

BOSTON AND VICINITY
(continued)

	<u>Opening date</u>	<u>Number of F. o. o. s.</u>	<u>Number and value of Units</u>	
			<u>Total</u>	<u>Estimated Rented</u>
8. 45 Longwood Avenue			Approx. 100	\$1100 up to \$200 up to \$1000
9. 101 Monmouth	1963		80	\$100 up to \$250 up to \$1000
10. Longwood Towers (Apt. hotel)	1924			\$80 per month
11. Lawrence Manor		4	31	\$15 up to \$160 up to \$1000
12. Winchester House 19 Winchester St. Brookline	Late-1963	9	108	\$200 up to \$1000
10 Winchester St. (off Beacon St.)			Approx. 100	\$180 up to \$1000
13. Park Terrace Park Street Coolidge Corners				
14. Sovereign 1440 Beacon Street			Approx. 100	
15. 70-80 Park Street Brookline			Approx. 100	
16. 519 Washington St. Brookline			Approx. 100	
17. The Wingate House 30 Gardner Street Brookline			Approx. 100	
18. Beacon Street and Washington Square			Approx. 150	
19. 1660 Beacon Street at Washington St.				

SELECTED APARTMENT BUILDINGS - EXISTING AND PROPOSED

BOSTON AND VICINITY (continued)

	<u>Opening Date</u>	<u>Number of Floors</u>	<u>Number and Price of Units</u>		
			<u>Total</u>	<u>Effic.</u>	<u>1-Bedroom</u>
20. 1768 Beacon Street Brookline	Rehabilitation and conversion				
21. Chiswick Arms Chiswick Road at Commonwealth Ave., Brighton	June-1963	5	68		
22. Kingston Manor Corey Road at Kelton Street		4	31	\$140	\$160
Vinal Apartments Vinal between Wood- stock and Bellvista Road			32		
Commonwealth Court Commonwealth Avenue and Commonwealth Court			Approx. 125	0	\$175
23. Kingston Gardens Corey Road at Kelton Street			80	\$135 4 units	0
24. Regency House 1455 Commonwealth Ave. at Warren St., Brighton	Fall-1963	7	Approx. 100		
25. Riverview 221 Mt. Auburn St. Cambridge	June-1963	7	80 including 14 town- houses (1 & 4 bed- rooms at \$195-\$390)	0	\$205 up 15 units

SELECTED APARTMENT BUILDINGS - EXISTING AND PROPOSED

BOSTON AND VICINITY (continued)

<u>Number and Price of Units</u>			<u>Vancancies</u> <u>(Oct. 1963)</u>	<u>Parking</u>	<u>Comments</u>
<u>2-Bedroom</u>	<u>3-Bedroom</u>	<u>Penthouses</u>			
\$250 6 units			Some leasing difficult reported.	Reserved spaces	Balconies. Split level terraces. Slowness of leasing may be due to location (top rent in neighborhood \$175) and design problems.
\$180	0				
\$175	0	0			
\$160-\$170	0				Five buildings
				Reserved spaces	Balconies. One year's lease.
40 units \$210 up (on garden side) \$285 on river- side	9 units (all on 6th & 7th floors) \$530 up	2 units	30% 9-2 brs. 3-3 brs. 2-3 brs. & family-room suites in the townhouse sec- tion.	Covered-\$25 (32 spaces; open \$15 (55 assigned), plus guest spaces.	2 acre site. Split level.



SELECTED APARTMENT BUILDINGS - EXISTING AND PROPOSED

BOSTON AND VICINITY (continued)

<u>Number and Price of Units</u>			<u>Vacancies</u> (Oct. 1963)	<u>Parking</u>	<u>Comments</u>
<u>2-Bedroom</u>	<u>3-Bedroom</u>	<u>Penthouses</u>			
\$440 up	\$550-\$600 to \$1,100		70% leased		Units being occupied as soon as completed.
\$325-\$350	\$410 up (2 baths)			Underground \$25; carports \$15; reserved open \$10	60% tenants are widowed or retired, other 40% are older people owning businesses. Pools. Waiting list.
144 units rent for \$250 up					

Similar to or higher than Executive House group.

\$145 \$175

been well received by the market, although the rate at which they have been made available has been moderate. The success of the wharf conversions is particularly interesting because the proposals for the project area contemplate an extension of the type of development to other wharves.

Prospects for Growth

It is expected, on the basis of data outlined in earlier sections of this report, that population, income, employment, and specifically downtown employment will continue to grow in the foreseeable future. These factors, primarily the latter, can be expected to generate new demand for additional downtown housing. Other factors contributing to the future market for downtown housing area:

1. Demolitions due to private market operations, highway construction and urban renewal.*
2. Better quality housing to replace obsolescence occurring due simply to the passage of time.
3. Better quality housing to accommodate the increasing demand attributable to rising incomes.
4. Centrally located housing to accommodate demand from persons now living outside the central city but who might find downtown housing attractive were it available and were the general downtown environment improved.

All the factors listed above were operative to a greater or lesser degree during the period covered by available statistics for 1950 and 1960. However, it is not possible to isolate the market effect of each individual factor with any degree of precision, although sufficiently detailed statistics are available to suggest that each of these elements has been operative in the past and probably will continue to be so in the foreseeable future. For this reason it seems quite conservative to project future metropolitan area and city housing market trends experienced during the decade of the 50's. It is likely that such a projection would

* Demolitions due to highway construction and renewal activities along are projected by the Boston Redevelopment Authority in excess of 18,000 housing units in the 15-year period between 1960 and 1975.

HOUSING DEMAND PROJECTIONS

	<u>Annual</u>	<u>10-Year Total</u>
SMSA Housing Market	15,000	150,000
City Housing Market at 15% of SMSA Housing Market	2,250	22,500
Close-in High-Rise Market	500	5,000

NOTES: Demand projections include housing needed due to increases in the number of households, as well as replacements for housing demolished.

understate the market potentially available to Boston since the city might be able to attract some of the tenants who selected housing in Brookline and similar moderately close-in locations, depending on Boston's success in improving downtown as a residential environment.

The table opposite shows housing demand projections for the metropolitan area, the city and the close-in part of it, based on rather conservative assumptions:

1. The metropolitan area housing market will grow at approximately the same average annual rate as it did during the decade of the 50's.
2. The city will continue to attract only about 15% of the metropolitan area housing market. This assumption might prove conservative if city renewal programs are successful in improving the attractiveness of Boston as a place to live and in making sites available for new residential construction on a large scale, particularly in middle and lower income price ranges where demand is broadest.
3. The absorption of new, high-rise, close-in housing will continue at about 500 units per year, with the remaining 1,750 units annually in other types of development in the city.

it seems reasonable that the Waterfront Project would be able to absorb a total of about 1,000 to 1,500 high-rise units, possibly to be developed in two or three stages of about 500 units each, with timing to be dependent on the leasing experience of the first building and the pace of competitive development.

The Waterfront Project is expected to be able to attract about 50 to 100 units per year from the remaining city demand of 1,750 units annually. This rate of absorption applies to middle to high rent ranges. The absorption in lower rent ranges (such as the 221 (d) 3 housing) would be limited by the ability to provide for its development rather than by a lack of market demand in this price class.

The rates of absorption will be subject to variation depending on the scope of housing offered in the Waterfront Project and elsewhere in the city. The rates estimated here assume that disposition and redevelopment of urban renewal lands for residential purposes will be timed to take into account rates of absorption indicated by leasing experience and growth in housing demand.

ANNUAL HOUSING DEMAND
GENERATED BY DOWNTOWN EMPLOYEES
BY ESTIMATED FAMILY SIZE AND RENT CHARACTERISTICS

<u>Approximate Allowable Rent Based on Income Group</u>	<u>No. of Unrelated Individuals</u>	<u>No. of Persons Per Family</u>		
		<u>2</u>	<u>3</u>	<u>over 3</u>
Under \$ 20	554	58	19	26
\$ 20 to \$ 40	365	117	32	26
\$ 40 to \$ 60	241	137	45	52
\$ 60 to \$ 75	202	157	71	110
\$ 75 to \$ 95	144	178	104	202
\$ 95 to \$115	91	183	144	319
\$115 to \$135	45	157	130	287
\$135 to \$190	52	306	280	606
\$190 to \$290	26	130	157	391
\$290 Up	<u>13</u>	<u>71</u>	<u>71</u>	<u>196</u>
Total	1,733	1,494	1,053	2,215

SOURCE: Distribution based on data from U. S. Bureau of the Census. U. S. Census of Population: 1960. Vol. 1, Characteristics of the Population. Part 23, Massachusetts, Tables 141 and 142 (See Appendix D).

Size and Rent Mix

The absorption rates outlined above are believed to be readily attainable, provided that the development be tailored to suit the nature of demand. With regard to the proposed high-rise development, the characteristics of demand are relatively well defined by available experience with similar close-in housing in Boston; that is, unit size (number of bedrooms) and price-cost relationships based on past experience indicate development consisting largely of one-bedroom and other smaller unit sizes and rent ranges around \$100 to \$150 per month.

It would be desirable to determine the size and rent mix appropriate to the proposed development on the basis of family size and income distribution characteristics of future downtown employees, from which a large portion of the demand for the proposed housing is expected to come. There is, unfortunately, no means by which these characteristics can be identified. However, assuming that future downtown employees will have family size and income characteristics similar to those which currently prevail in the metropolitan area as a whole, the general rent paying ability and apartment size requirements of future downtown employees can be estimated as shown in the table opposite.

A considerable amount of interpretation is required in applying the estimate of future family size and rent paying ability to determine the size and rent mix appropriate to new development in the Waterfront Project:

1. The allowable rent has been calculated by assuming that approximately one week's income represents the amount allowable for one month's rent or mortgage payment. This would mean that allowable rent equals about 23% of annual income, whereas 1960 Census data indicate that the Boston average is less than this (16.9%).
2. There is no direct relationship between the number of persons per family and the size of housing unit required, although there is some general correlation. For example, a number of unrelated individuals might take efficiency, one-bedroom or even two-bedroom apartments, and the same considerations apply to two, three, and over three-person families.

3. It is not unusual for two or more unrelated individuals to share housing, thereby increasing the total rent allowable, as well as the size of the required unit.

The chief usefulness of the information in the table for purposes of this analysis is that it establishes the fact that there probably will be a relatively large number of families and individuals with incomes sufficient to pay rent adequate to support new construction. Further, the table documents the fact that there are large numbers of families and individuals with lower incomes, such as might be attracted to the proposed 221(d)3 housing. This underscores the importance of keeping rents as low as consistent with providing competitive housing, in order to aim at the broadest part of the market. This course of action is even more desirable in light of the fact that much of the housing recently developed in close-in locations is oriented toward the higher income part of the market.

<u>Size and Rent Mix</u>		
<u>No. of Units</u>	<u>Size of Units</u>	<u>Approximate Midpoint of Rental Range</u>
75	Efficiencies	\$135
75	Junior One-Bedroom	\$160
300	One-Bedroom	\$200
50	Two-Bedrooms	\$250 plus

The size and rent mix outlined above as a model for one 500-unit stage of high-rise development is within the limits of experience of similar housing in Boston and elsewhere. However, much less market experience is available with regard to low-rise housing in similar close-in locations. It is believed that the characteristics of demand for the proposed low-rise housing will approximate those defined as a

result of the high-rise experience. In the case of low-rise housing, however, more flexibility in meeting this demand appears to be available; that is, the development could be oriented either toward the higher or lower end of the available market. The fact that the layout of the project lends itself to development of several relatively self-contained neighborhoods may allow several sub-developments, some oriented toward higher and some toward lower price ranges. Likewise, the possibility of relatively distinct neighborhoods provides an opportunity for the development of a diversity of ownership types, housing styles, and architectural treatments. Promotion is expected to be very important in marketing each of the residential parcels, and more specific recommendations regarding marketability of each of the parcels are contained in Part I - Summary of Conclusions and Recommendations.

While statistical data provide no conclusive proof as to the most appropriate size mix for the project area, the limited experience available on the market acceptance of low-rise housing in larger as opposed to smaller unit sizes indicates that the emphasis should be on efficiencies and one-bedrooms with perhaps a few two-bedroom apartments.

A P P E N D I X

APPENDIX A-1

PROPOSED LAND USE BY PARCEL AND ESTIMATED DISPOSITION DATE

<u>Parcel Number</u>	<u>Use</u>	<u>Possible Amount</u>			<u>Estimated Date Available for Disposition</u>
		<u>Land</u> (Sq.Ft.)	<u>Building</u>		
A-1	General Business	20,700	20,700 - square feet		Jan. 1969
A-2	Residential	165,300	1,200 - units		June 1965
A-3	General Business General Office	96,000	1,500 - parking spaces 100,000 - sq.ft. office		Jan. 1967
A-7	Transient Hsg.	67,200	300-500 - rooms		Jan. 1967
A-6	General Office (Tel. Co.)	40,000	300,000 - square feet to 400,000		Sept. 1965
B-1	Town Houses General Business	138,950	60 - units		March 1965
B-2	Town Houses Rehab. General Business	243,100	100 - units 100 - units 30,400 - square feet		June 1966
B-3	Town Houses Rehab. General Business	225,400	150 - units 10 - units 6,000 - square feet		June 1967
MTA	--	--	--	--	--
B-4	Marine & Marine Accessory	143,700	71,850 - square feet		June 1965
C-2	Rehab. Units and New Housing	336,650	200 - units 200-300 - units		June 1967
D-1	General Business	93,000	466,000 - square feet		Jan. 1967
D-2	General Business	34,000)			Jan. 1967
D-3	General Business	29,250)	150,000 - square feet		Jan. 1967
D-4	General Business	27,300)			Jan. 1968
D-5	General Business	14,500)			Jan. 1969
D-6	General Office	37,000	125,000 - square feet		
D-9	General Office	31,600	252,800 - square feet		June 1968
			<u>Gen. Bus.</u>	<u>Residential</u>	
E-5)	General Business	30,000	62,400 sq.ft.	80 units)	
E-6)	and				
E-7)	Residential	7,250)	45,000 sq.ft.	60 units)	June 1966
		14,250)			
E-9	Institutional	11,500	69,000 square feet		June 1967

APPENDIX A-2

PARCELS FOR WHICH NO EARLIEST DISPOSITION DATE HAS YET BEEN SET

<u>Parcel Number</u>	<u>Use</u>	<u>Square Feet of Land</u>
A-5	General Office (expansion for existing Telephone Company Building)	5,700
Included in A-8	Public Open Space	73,600
A-8	Public Open Space	73,600
(Lobster Area - Not shown as a parcel)		
B-5	Public Open Space	27,700
C-1	Public Open Space	8,000
E-1	{ General Business	1,125
E-2		2,250
E-3	Public Open Space	7,175
E-4	General Business	4,500
E-8	Parking	37,250

APPENDIX B-1

EMPLOYMENT PROJECTIONS BY MAJOR ACTIVITY METROPOLITAN BOSTON, 1957-75

<u>Activity</u>	<u>Number of Employees*</u>		<u>Increase 1957-75</u>	
	<u>1957</u>	<u>1975</u>	<u>Number</u>	<u>Percent</u>
Manufacturing	296.3	368.7	62.4	21.1
Agriculture	3.1	3.2	0.1	--
Mining	1.3	1.5	0.2	--
Construction	48.5	58.1	9.6	19.8
Transportation, Commu- cation & Public Utilities	63.9	77.0	13.1	20.5
Wholesale Trade	75.0	79.5	4.5	6.0
Retail Trade	163.7	188.6	24.9	15.2
Finance, Insurance and Real Estate	68.1	90.8	22.7	33.3
Services and Miscellaneous (Including government)	302.6	353.4	50.8	16.8
TOTAL/AVERAGE	1,022.5	1,210.8	188.3	18.4

* Figures shown in thousands.

SOURCE: Boston City Planning Board, as cited by Robert Gladstone,
Downtown Boston, Market Studies for Urban Renewal, May,
1963, Page 45.

APPENDIX B-2

EMPLOYMENT AND LABOR FORCE TRENDS, METROPOLITAN BOSTON, 1957-62

Industry Group		Number Employed		Change 1957-62	
		1957	1962	Number	Percent
<u>Manufacturing</u>					
Durable Goods:					
SIC 19	Ordn & Accessories	3,390	2,600	- 790	-23.3%
24	Lumber and Wood Products	1,800	2,150	350	19.4
25	Furniture & Fixtures	4,210	4,030	- 180	4.3
32	Stone, Glass & Clay	2,760	2,850	90	3.3
33	Primary Metals	3,520	3,780	260	7.4
34	Fabric, Metal Products	16,720	17,550	830	4.9
35	Machinery, exc. electrical	23,570	27,960	4,390	18.6
36	Elec.Mach., Equip & Sup.	66,380	57,180	-9,200	-13.9
37	Transportation Equipment	23,580	18,030	-5,550	-23.5
38	Prof. Sci.Contr. Instruments	11,830	15,650	3,690	31.2
	Total Durable Goods	(157,760)	(151,650)	(-6,110)	(-38.8%)
Non-Durable Goods:					
20	Food & Kindred Products	26,470	26,760	290	11.0%
21	Tobacco Manufact.	260	10	- 250	-96.2
22	Textile Mill Products	7,690	6,930	- 760	- 9.9
23	Apparel & Rel. Prod.	26,010	22,780	-3,230	-12.4
26	Paper & Allied Products	9,750	11,140	1,390	14.3
27	Printing and Publishing	23,300	22,250	-1,050	- 4.5
28	Chemicals & Allied Products	10,120	9,260	- 860	- 8.5
29	Petroleum Refining	1,570	1,090	- 480	-30.1
30	Rubber & Plastics	12,960	17,560	4,600	35.5
31	Leather & Leather Products	22,310	19,760	-2,550	-11.4
39	Misc. Manufacturing	9,360	5,970	-3,390	-36.2
	Total Non-Durable Goods	(149,800)	(143,510)	(-6,290)	(- 4.2%)
	Manufacturing Total	307,560	295,160	-12,400	4.0%
<u>Non-Manufacturing</u>					
15-17	Contract Construction	45,440	50,570	5,130	11.3%
40-49	Transp., Comm. & Utilities	78,090	67,290	-10,800	-13.8
50-59	Wholesale and Retail	233,330	247,800	14,470	6.2
60-69	Finance, Insurance & Real Est.	69,700	74,190	4,490	6.4
70-89	Service Exc. Domestic	127,370	161,730	34,360	27.0

APPENDIX B-2
(continued)

<u>Industry Group</u>	<u>Number Employed</u>		<u>Change 1957-62</u>	
	<u>1957</u>	<u>1962</u>	<u>Number</u>	<u>Percent</u>
91-95 Government				
Federal	--	(45,360)	--	--
State & Local	--	(98,790)	--	--
Total Government	(115,820)	(144,150)	28,330	24.5%
Non-Agricultural Wage & Salary Total	978,600	1,047,640	69,040	7.1%
All Other Non-Agricultural	123,000	120,000	- 3,000	- 2.4
Agricultural	6,100	4,000	- 2,100	-34.4
Total Employment	1,107,700	1,171,640	63,940	5.8
Unemployment	27,900	48,600	20,700	74.2
 TOTAL LABOR FORCE	 1,137,200	 1,220,240	 83,040	 7.3%

SOURCE: Gladstone, op. cit., pages 118 and 119.

APPENDIX C

DWELLING UNITS AUTHORIZED* BY BUILDING PERMITS, BOSTON AREA, 1950 TO JUNE 1963

<u>Year</u>	<u>Boston City</u>		<u>Remainder of Area</u>	<u>Total Boston Area</u>
	<u>Number</u>	<u>% of To- tal Area</u>		
1950	2,353	16	12,761	15,114
1951	3,686	26	10,294	13,980
1952	1,390	12	10,179	11,569
1953	1,273	11	10,390	11,663
1954	647	6	10,023	10,670
1955	844	7	10,673	11,517
1956	575	6	9,292	9,867
1957	396	5	7,044	7,440
1958	599	7	8,108	8,707
1959	604	6	9,940	10,544
1960	1,174	12	8,880	10,054
1961	1,740	14	10,936	12,676
1962	2,389	17	11,452	13,841
1963 (1st six months)	<u>1,967</u>	<u>32</u>	<u>4,182</u>	<u>6,149</u>
TOTAL/AVERAGE	19,637	13	134,154	153,791
ANNUAL/AVERAGE (13½ Years)	<u>1,455</u>	13	<u>9,937</u>	<u>11,392</u>

* Includes private and public units.

APPENDIX D

ESTIMATED INCOME DISTRIBUTION OF FAMILIES AND UNRELATED INDIVIDUALS BY NUMBER OF PERSONS PER FAMILY

Income Group	Unrelated		Number of Persons Per Family					
	Individuals		2		3		Over 3	
	%	No.	%	No.	%	No.	%	No.
Under \$1,000	8.5	554	.9	58	.3	19	.4	26
\$1,000 - \$1,999	5.6	365	1.8	117	.5	32	.5	26
\$2,000 - \$2,999	3.7	241	2.1	137	.7	45	.8	52
\$3,000 - \$3,999	3.1	202	2.4	157	1.1	71	1.7	110
\$4,000 - \$4,999	2.2	144	2.7	178	1.6	104	3.1	202
\$5,000 - \$5,999	1.4	91	2.8	183	2.2	144	4.9	319
\$6,000 - \$6,999	.7	45	2.4	157	2.0	130	4.4	287
\$7,000 - \$9,999	.8	52	4.7	306	4.3	280	9.3	606
\$10,000-\$14,999	.4	26	2.0	130	2.4	157	6.0	391
\$15,000 - Up	.2	13	1.1	71	1.1	71	3.0	196
TOTAL	26.6	1,733	22.9	1,494	16.2	1,053	34.0	2,215

SOURCE: Distribution based on data from U. S. Bureau of Census.
U. S. Census of Population: 1960. Vol. 1, Characteristics
of the Population. Part 23, Massachusetts, Tables 141 and 142.

APPENDIX D

ESTIMATED INCOME DISTRIBUTION OF FAMILIES AND UNRELATED INDIVIDUALS BY NUMBER OF PERSONS PER FAMILY

The methodology by which the figures in the table opposite were derived is outlined below:

1. The gross increase in downtown employment between 1957 and 1975 is projected at 49,350 or 2,742 per year for the 18-year period, 1957 to 1975.
2. The amount of existing-to-remain employment is 187,650 (237,000 less 49,350). Assuming housing to be replaced at the rate of 2% per year, annual replacement demand would be 3,753.
3. This results in annual housing demand related to downtown employment as follows:

Annual Growth in Housing Demand Due to Increases in Downtown Employment	2,742
Annual Replacement Housing Demand Due to Obsolescence of Existing Housing of Downtown Employees	<u>3,753</u>
TOTAL	6,495

4. Census reports the number of families and unrelated individuals in each income group by the number of persons per family for the metropolitan area. Based on this, the percentage distribution was calculated and is shown in the facing table.
5. Assuming downtown employees to have family size and income characteristics similar to the metropolitan area pattern, the percentages were applied to the 6,500 unit per year housing demand.

This is, of course, not the same as demand for downtown housing since not all new downtown employees will maintain their own households or live downtown, some replacement demand will be expressed as suburban housing, and some downtown residents will be retired or will work elsewhere than downtown.

The calculations show that income and family size considerations appear to be consistent with the market forecasts in Section V.

APPENDIX E

NEW AND PROPOSED HOTELS AND MOTELS

	<u>Estimated Number of Rooms</u>	
	<u>Total</u>	<u>Since 6/62</u>
<u>Close to Downtown Boston</u>		
✓ Midtown Motor Inn, Huntington Ave.	165	60
✓ Logan Airport Motel	161*	
✓ Fenway Motor Hotel, Boyleston	94	
Fenway Commonwealth, Kenmore Square	150	150
✓ Terrace Motel, Brighton	52	
✓ Treadway Motor House, Cambridge	72	
✓ Cambridge House	137	
✓ "1200" Beacon Street, Brookline	172	
Charter House, Newton	107	
Charter House, Cambridge	<u>400</u>	<u>400</u>
Sub-Total	1,510	610
<u>Outskirts of Boston</u>		
✓ Waltham Motor Hotel, Waltham	105	105
Fenway North, Revere (Northeast Expressway at Route C-1 in Revere)	Unknown	Unknown
Charter House Motel, Waltham	96	
✓ Hotel 128, Dedham	185**	35
Framingham Inn, Dedham	50	
✓ Lexington Inn, Lexington	64	
Battle Green Inn, Lexington	73	
Dolphin Inn, Quincy	104	
Charter House, Braintree	<u>Unknown</u>	<u>Unknown</u>
Sub-Total	677	140
<u>Proposed or Under Construction</u>		
✓ Hotel America	1,000	1,000
Government Center Motor Inn	300	300
Marriott, Newton	460	460
Park Square & Boyleston	400	400
West End Motel	250	250
Soldiers Field, Brighton	Unknown	Unknown
Wakefield	<u>65</u>	<u>65</u>
Sub-Total	<u>2,475</u>	<u>2,475</u>
TOTAL	<u>4,662</u>	<u>3,225</u>

* Includes 60 units recently added

** Includes 35 units recently added

APPENDIX F

RETAIL AND OTHER COMMERCIAL SPACE NEEDED IN THE PROJECT AREA

A limited amount of retailing and other commercial activities now are located in the Waterfront Project area. These include marine equipment and supplies; home furnishings and interior decorating; and business furniture, equipment and supplies; among others.

It is likely that some of the general business tenants will be accessory retail and commercial uses related to the primary or "self-sustaining" uses in and near the project area. Such accessory uses include:

1. Retail and service outlets for the convenience of the resident population.
2. Retail and commercial activities needed to support the primary office and general business space expected to be developed in the project area.
3. Retail and other facilities to serve tourists and other visitors to the aquarium, motor hotel, and other activities located in and near the project area.

The Resident Population

In addition to the housing which now exists in the project area, 2,160 to 2,260 dwelling units are proposed for development. This would indicate a total resident population of at least 5,000 persons, not counting residents of the nearby North End area. A population of this size would be adequate to support a small neighborhood shopping center built as an integrated unit or as a series of convenience and service outlets located in several different areas. About 30,000 to 50,000 square feet within the project area conveniently located for use by the resident population would be required and should include the following store types:

1. Food - Small, medium priced market of about 8,000 to 10,000 square feet. Smaller, higher priced food store of about 3,000 to 4,000 square feet.
2. Eating and drinking establishments totaling approximately 10,000 square feet. (Part of this requirement could be satisfied by providing fountain service in drug stores,* a delicatessen possibly with table and carry-out facilities, a coffee shop, and conventional restaurants designed to serve not only the needs of the resident population but those generated by other activities in and near the project area.)
3. A variety of personal services (such as laundry, dry cleaning, clothing repair, barber shops, etc.)

Project Area Employees and Businesses

The development of approximately 650,000 to 750,000 square feet of office facilities in the project area will generate a need for retail and other commercial uses related both to potential business from office employees and from office tenants.

A rule of thumb normally used for estimating the extent of this need is that retail and commercial space be provided in an amount equal to 5% to 10% of office space. An illustration of the tenant types normally found in such commercial space in major office development is the experience of Pen Center in Philadelphia, Gateway Center in Pittsburgh, and several of the major office buildings recently developed in downtown Washington, D. C.** These include a variety of operations, such as:

-
- * The resident population is not large enough to support a conventional drug store, but would provide a partial basis for support of such a unit, along with the business generated by other business activities in and near the project area.
 - ** Detailed information on each of these areas is found in Appendix G of this report.

Newsstands	Apparel
Eating and Drinking	Appliances
Candy Shops	Photographers
Bakeries	Opticians
Toys	Beauty Salons
Gifts	Barber Shops
Jewelry	Travel Offices
Drugs	Data Processing
Camera	Radio and TV Stations
Music and Records	Banks
Florists	Savings and Loan Associations
Books	Investment Brokers

Office Equipment

The Penn Center development in Philadelphia contains approximately 1.7 million square feet of office space at the present time. In addition, a 900-room hotel is part of the development. The total space developed for retailing and commercial uses is approximately 181,000 square feet (including that in the hotel) or about 10% of the square footage developed in office buildings (not including the hotel). Penn Center, like the Waterfront area, is at the fringe of the downtown core, and the major department stores are some distance away.

Gateway Center in Pittsburgh is much further removed for the center of downtown retailing. Moreover, no attempt has been made there to integrate the retailing on the ground floors of the various office buildings and the hotel. With a total development of approximately 1.3 million square feet of office space, plus a hotel of 800 rooms, the total commercial floor space developed amounts to roughly 72,000 square feet, or about 6% of the office building space, not counting the floor space of the hotel.

In Washington, the office buildings surveyed were not part of a composite development. Rather, they have grown up singly along the major streets of the western fringe of Washington's central business district. The total floor area of the office buildings surveyed is approximately 1.8 million square feet. On the ground floors of these buildings, commercial development amounts to about 90,000 square feet or roughly 5% of the office space surveyed.

Despite some basic differences in their form of development, their plan and their position within their respective downtown

areas, the developments surveyed do have a number of points in common that are of significance to the Waterfront Project. These are:

1. Only commercial space at grade or concourse level was surveyed so that the percentages represent minima and exclude commercial space at the second floor level or above.
2. All of the buildings surveyed are major buildings rather than small office buildings which might contain a higher percentage of commercial to total space or buildings used exclusively for commercial purposes.
3. A very high proportion of general office, service, finance, and eating and drinking establishments occupy first floor and concourse level space.
4. A wide variety of space users exist in the buildings surveyed, and many are of a highly specialized nature.
5. Even at ground floor or concourse level, some space is devoted to general office purposes.
6. Each of the tenants is of a relatively small size.

Due to the nature of the buildings surveyed and the fact that only space at first floor or concourse level was covered, it is likely that the 5% to 10% of commercial space found is a very conservative estimate of the amount of commercial space supported by the office and business population of the buildings. Further, in many cases, a substantial amount of commercial development exists outside the buildings themselves, although a large part of the commercial business appears to be drawn from their proximity to the office buildings. If 10% of the office space to be developed in the Waterfront Project were devoted to commercial uses, between 65,000 and 75,000 square feet would be required for this purpose.

Other Sources of Demand

1. Fringe Uses. At present, a very substantial amount of space in and near Downtown Boston is occupied by commercial activities. In addition, an apparently large but

undetermined amount of such space users have migrated to the suburbs in search of facilities to accommodate necessary expansion or in order to provide themselves with their own buildings. A Waterfront location close to downtown would be suitable for many of these businesses and the availability of relatively small sites in the project area is expected to be attractive to a number of firms wishing to occupy their own building or a large proportion of the space in a building owned by them.

2. Replacement and Relocation. In addition, a substantial amount of replacement demand has been developed due to demolition of existing facilities because of highway and urban renewal programs and the operation of the private market. Also some displacement will result from redevelopment in the Waterfront Project itself. By careful staging of relocation activities, it is believed that a number of these firms might take new or rehabilitated space in the project area.
3. Tourists and Other Visitors. Aside from the demand from relocation needs and from resident population, employees, and businesses, some commercial and retail facilities will be required to meet the needs of tourists and other visitors to the area. No effort has been made to quantify this need in this report although it is expected to provide a plus factor in the potential business available to eating and drinking and similar establishments.*

* However, the increase in downtown commercial expenditures due to tourists has been estimated at an annual rate of \$4.3 million by 1975.

SOURCE: Robert Gladstone, Downtown Boston: Market Studies for Urban Renewal.

APPENDIX G

COMMERCIAL SPACE IN SELECTED OFFICE BUILDINGS

	Total Office Building Area (Square Feet)	Commercial Space			
		Total		In Office Buildings Only*	
		Sq. Ft.	%	Sq. Ft.	%
Penn Center	1,688,000	173,960	10.3	140,540	8.3
Gateway Center	1,279,000	72,255	5.6	58,160	4.5
Selected Washington Office Buildings	1,787,000	87,571	4.9	87,571	4.9

* Excludes commercial space in hotels in Penn Center and Gateway Center. See following pages for detail.

BUILDINGS SURVEYED - PENN CENTER

<u>Name of Building</u>	<u>Year Built</u>	<u>Floor Area</u> <u>(Sq. Ft.)</u>
Penn Center Plaza #3	1955	439,000
Penn Center Plaza #2	1959	431,000
Transportation Building	1957	316,000
Suburban Station Building	1930	<u>502,000</u>
TOTAL Office Building Area		1,688,000
Sheraton Hotel	1957	900 rooms

GROUND FLOOR USE - PENN CENTER OFFICE BUILDINGS AND HOTEL
SUMMARY OF FLOOR SPACE TYPE OF GROUND AND CONCOURSE FLOOR USE

<u>Type of Use</u>	<u>Total No. of Outlets</u>	<u>Outlets In Office Buildings</u>	<u>Outlets In Hotel</u>	<u>Total Square Footage</u>	<u>Square Footage In Office Buildings</u>	<u>Square Footage In Hotel</u>	<u>Average Square Footage per Outlet</u>
Newsstand	3	2	1	950	350	600	317
Travel Offices	17	13	4	27,205	24,975	2,230	965
T. V. Station	1	-	1	1,000	--	1,000	1,000
Apparel	5	3	2	8,800	4,800	4,000	1,760
Eating & Drinking	11	7	4	55,235	47,750	7,485	5,021
Candy Shop	2	1	1	2,405	2,000	405	1,202
Bakery	1	1	-	2,000	2,000	--	2,000
Toy & Hobby	1	1	-	2,000	2,000	--	2,000
Candy & Gifts	4	2	2	5,200	3,200	2,000	1,300
Jewelry	1	1	-	600	600	--	600
Drug	2	1	1	5,875	4,875	1,000	2,938
Camera	1	1	-	500	500	--	500
Music & Records	1	1	-	500	500	--	500
Florist	1	1	-	460	460	--	460
Book	1	1	-	700	700	--	700
Photographer	1	-	1	360	--	360	360
Beauty Salon & Barber Shops	4	2	2	4,895	1,475	3,420	1,224
Other Services	2	2	-	950	950	--	475
Office Furniture	1	1	-	2,295	2,295	--	2,295
General Office	6	1	5	12,320	1,400	10,920	1,920
Data Processing	1	1	-	14,175	14,175	--	14,175
Bank	5	5	-	15,535	15,535	--	3,107
Investments	<u>3</u>	<u>3</u>	<u>-</u>	<u>10,000</u>	<u>10,000</u>	<u>--</u>	<u>3,333</u>
TOTAL	75	51	24	173,960	140,540	33,420	
				or 10.3% of total office building area	8.3% of total office building area		

GROUND FLOOR USE - PITTSBURGH GATEWAY CENTER OFFICE BUILDINGS AND HOTEL
SUMMARY OF FLOOR SPACE TYPE OF GROUND FLOOR USE

<u>Type of Use</u>	<u>No. of Outlets</u>	<u>Outlets In Office Buildings</u>	<u>Outlets In Hotel</u>	<u>Total Floor Area (sq.ft.)</u>	<u>Floor Area In Office Building (sq.ft.)</u>	<u>Floor Area In Hotel (sq. ft.)</u>	<u>Average Per Outlet (sq.ft.)</u>
Newsstand	4	3	1	538	358	180	134
Radio & TV Station	1	1	-	14,683	14,683	--	14,683
Bank	3	3	-	8,111	8,111	--	2,704
Investment Broker	1	1	-	2,870	2,870	--	2,870
Travel Offices	5	1	4	920	80	840	184
General Office Space	9	9	-	23,558	23,558	--	2,618
Barber Shops and Beauty Salon	2	1	1	3,100	2,500	600	1,550
Drug	1	-	1	1,050	--	1,050	1,050
Apparel	2	-	2	1,000	--	1,000	500
Florist	1	-	1	300	--	300	300
Eating & Drinking	7	-	7	9,925	--	9,925	1,418
Jewelry	1	-	1	200	--	200	200
Vacancies	3	3	-	6,000	6,000	--	2,000
TOTAL	40	22	18	72,255 or 5.6% of total of- fice build- ing area	58,160 or 4.5% of to- tal of- fice build- ing area	14,095	

BUILDINGS SURVEYED

<u>Name of Building</u>	<u>Year Built</u>	<u>Floor Area (sq. ft.)</u>
Gateway 1	1952	272,000
Gateway 2	1952	284,000
Gateway 3	1952	323,000
Gateway 4	1960	400,000
Total Office Building Area		1,279,000
Hilton Hotel	1960	800 Rooms

SELECTED APARTMENT BUILDINGS - EXISTING AND PROPOSED

BOSTON AND VICINITY (continued)

	<u>Opening Date</u>	<u>Number of Floors</u>	<u>Number and Price of Units</u>		
			<u>Total</u>	<u>Effic.</u>	<u>1-Bedroom</u>
26. 1010 Memorial Drive Cambridge	Summer 1964	18	65	\$200	\$280
27. Hammond, Embassy and Executive Houses Boyleston Street (Rt.9) near Newton/Brookline city limits, in Newton Charter House (same)			165 (in 3 buildings)	\$165-\$185	\$230-\$265
28. Imperial House South side of Rte. 9A west Chastalions Hotel (1-2 blocks from Execu- tive House group)	1964		152	Similar to or higher than Executive House group.	
29. 1799 Centre Street New West Roxbury	Fall-1963		31	\$120	\$120

SOURCE: Survey of Building Managers and Owners by Larry Smith & Company,
Fall, 1963.

GROUND FLOOR USE - SELECTED DOWNTOWN
WASHINGTON OFFICE BUILDINGS
SUMMARY OF FLOOR SPACE BY TYPE
OF GROUND FLOOR USE

<u>Type of Use</u>	<u>Number of Outlets</u>	<u>Square Footage</u>	
		<u>Total</u>	<u>Average</u>
Travel Offices	6	4,660	777
Investment Brokers	3	8,400	2,800
Apparel	4	12,840	3,210
Eating & Drinking	5	14,360	2,872
Music & Records	1	1,155	1,155
Drug Stores	6	28,450	4,742
Jewelry	1	1,160	1,160
Newsstands	1	100	100
Florist	1	960	960
Appliances	1	1,650	1,650
Office Equipment	1	1,386	1,386
Optician	1	450	450
Data Processing	1	3,900	3,900
General Office	2	5,100	2,550
Banking	1	1,000	1,000
Vacant	2	2,000	1,000

TOTAL

37

87,571 or 4.9%
of Total Office
Building Area

BUILDINGS SURVEYED

<u>Name of Building</u>	<u>Year Built</u>	<u>Floor Area</u> <u>(Sq. Ft.)</u>
Bender	1960	270,000
RCA	1960	150,000
Riddell	1960	210,000
Premier	1960	120,000
Doctor	1960	45,000
808 Seventeenth Street	1960	200,000
1707 H Street	1958	50,000
Penn 17		152,000
Ten O One		190,000
Universal	1959	400,000

Total Office Building Area

1,787,000

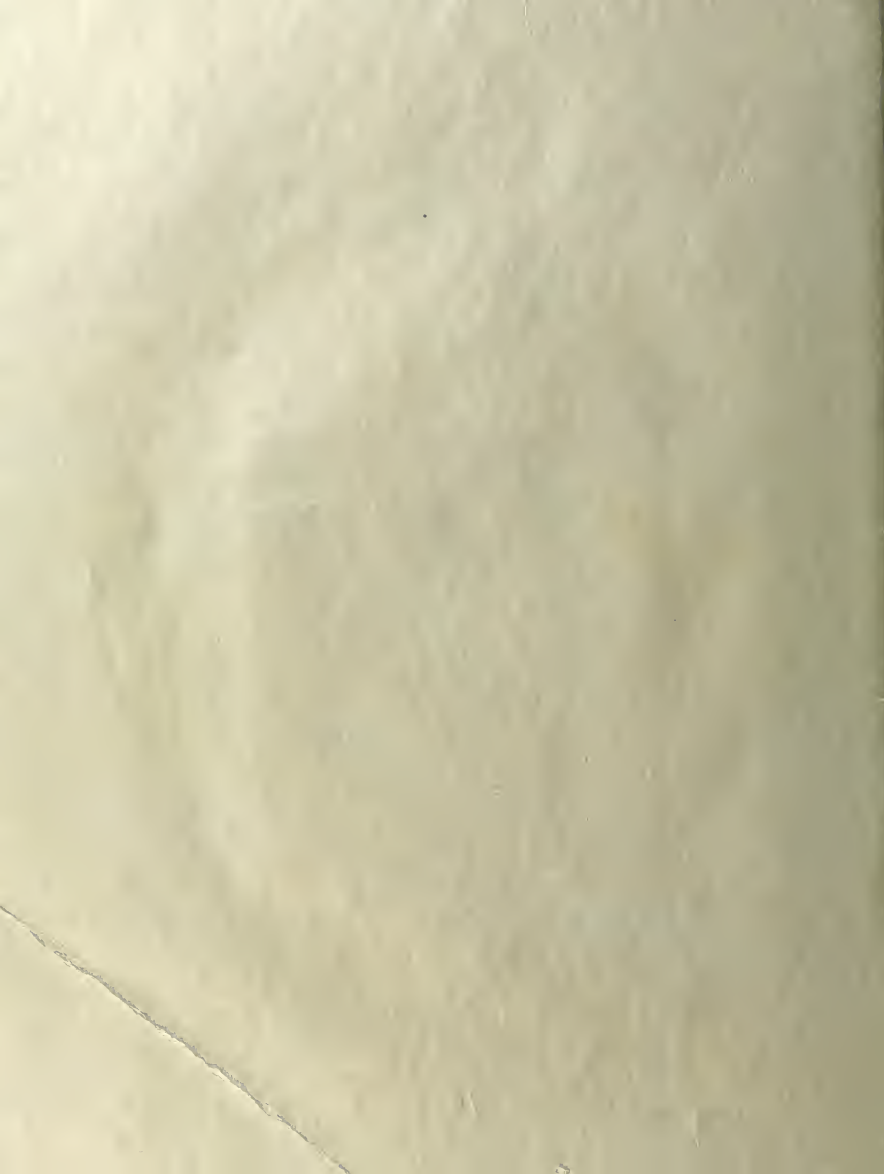
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